Preliminary Report

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University of California

College of Agriculture

Agricultural Experiment Station

Berkeley, California

THE MERCED IRRIGATION DISTRICT

An Economic Survey of Farm Incomes, Expenses, and Tax-paying Abilities

M. R. Benedict

February, 1933

Contribution from the

Giannini Foundation of Agricultural Economics

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TABLE OF CONTENTS

Page

Purposes of the Study 3

District Obligations and History of Delinquencies 6

The Importance of Prompt and Definite Consideration of the Problems Arising in Cases of Default 9

Initiation and Organization of the Project 11

General Trends and Conditions in the District 13

Acreages of the Various Crops in the Merced District in 1932 by Classes of Land 17

Proportion of Rented and of Owner-operated Farms 24

Problems Arising in the Case of Nonresident Ownership, Partially Developed Farms, and Inefficient Sizes of Units 24

Price Levels and Their Relation to Ability to Carry Tax and Debt Loads 28

General Plan of the Economic Survey 35

Viewpoint from which the Study is Approached 42

Types of Expenses and Costs Involved 44

A. Cash operating expenses other than for labor 45
B. Expenses for labor 46
C. Depreciation on equipment, plantings and soil 47
D. County taxes 50
E. Interest on investment 50

Relative Contractibility and Expansibility of the Various Types of Costs 55

The Per-Acre Income and Expenses as Shown by Records from 299 Farms in the Merced Irrigation District, 1929, 1930, and 1931 58

Results of Operations of Corporation Farms in the Merced Irrigation District, 1929, 1930, 1931 100

Summary of Results from Barley and Rice Grown on Larger Units 103

Income from Pasture Lands, 1929, 1930, 1931 108

Probable Ability of Lands in the Merced Irrigation District to Pay District Assessments in the Coming Years 109

14973

TABLES

Page

Table I -- Acreage of Merced County Fruit and Nut Crops 14

Table II -- Crop Acreage -- Merced Irrigation District, 1928-1932 15

Table III -- Acres in Various Types of Production in the Merced Irrigation District by Classes of Land (As shown by the ditch-tenders' survey coordinated with the Cone-Underhill survey) 18

Table IV -- Acres in Various Types of Production, as shown by the Ditch-Tenders' Survey Coordinated with Cone-Underhill Land Classification 21

Table V -- Owner-operated as Compared to Tenant-operated Acreages for 299 Farms from which Records were Secured (for the year 1931) 25

Table VI -- Farm Wages and Prices paid by Farmers for Commodities Bought, United States 56

Table VII -- Deciduous Fruit (excluding figs) -- Gross Incomes 64

Table VIII -- Deciduous Fruit (excluding figs) -- Cash Costs Other Than Labor and Taxes 65

Table IX -- Deciduous Fruit (excluding figs) -- Labor Costs 66

Table X -- Deciduous Fruit (excluding figs) -- Costs A+B+C+D 67

Table XI -- Deciduous Fruit (excluding figs) -- Net Return over Costs A+B 68

Table XII -- Deciduous Fruit (excluding figs) -- Net Return over Costs A+B+C+D 69

Table XIII -- Figs -- Gross Incomes 70

Table XIV -- Figs -- Cash Costs Other Than Labor and Taxes 71

Table XV -- Figs -- Labor Costs 72

Table XVI -- Figs -- Costs A+B+C+D 73

Table XVII -- Figs -- Net Return over Costs A+B 74

Table XVIII -- Figs -- Net Return over Costs A+B+C+D 75

Table XLIII -- Income and Expense -- Farms Operated by Corporations 102

Table XLIV -- Income and Expense -- Barley 104

Table XLV -- Income and Expense -- Rice 105

Table XLVI -- General Trend of Prices and Wages (1910-1914 = 100) 118

CHARTS

Chart -- Land in Class I -- Net Returns per acre over Costs A and B and Taxes, 1931, 1930, and 1929 111

Chart -- Land in Classes II and III -- Net Returns per acre over Costs A and B and Taxes, 1931, 1930 and 1929 . . 112

APPENDICES

Page

A -- Survey Forms Used 126

B -- Basis of Classification Used in Grading Farm Lands Included in the Economic Study of the Merced Irrigation District 139

C -- Bases Used in Computing Investment and Depreciation 144

D -- Price Changes California Farm Products, 1910-32 151

Table I -- Farm Prices of California Farm Products, 1910-1932 153

Table 2 -- Approximate Prices Received by Growers for Figs Testing Ninety per cent or Better, 1926-1932 155

Table 3 -- Prices of Farm Products, Merced District (Averages of Prices Shown by the Survey Records Taken) 156

Chart IV - Dried Apricots and Raisins -- California Prices, 1910-32 157

Chart V - Almonds and Alfalfa -- California Prices, 1910-32 158

Chart VI - Canning and Elberta Peaches -- California Prices, 1910-32 159

Chart VII- Milk and Milk Fat -- California Prices, 1910-32 160

Chart VIII-Rice, cotton and barley -- California Prices, 1910-32 161

E -- Agricultural Outlook (See separate publication - California Agr. Ext. Service, Circular 71, February, 1933).

F -- Maintenance of Soil Fertility (not included).

G -- Income from Lands Taken Over by Merced Irrigation District (1928 to 1932 inclusive) 162

Table 1 -- Income from Lands Taken Over by Merced Irrigation District 163

H -- Production Costs per Acre for Certain Tree Crops as Shown by Records Assembled by the Agricultural Extension Service University of California 164

Apricots 164
Almonds 171
Peaches 173

I -- Delinquency on Lands Sampled in the Survey as Compared to Delinquency for the District as a Whole 178

J -- Conditions in the City of Merced (not included).

K -- The Farm Debt Situation in the Merced District as Indicated by Debt Data from the Farms Covered in the Survey. . 180

Table 1 -- Mortgage Debt of Farms in Sample 182

Table 2 -- Farms Having no Mortgage or Giving no Information 187

Table 3 -- First and Second Mortgage and Chattel and Bank Loans on Farms in Survey Sample, 1932 188

Table 4 -- Changes in Identical Accounts, Atwater Branch, Bank of America, November 1, 1928 to November 1, 1932 190

L -- Case Histories of a Number of Farms which Illustrate the Problem Where for Various Reasons the Land has not been Well Farmed 191

M -- Principal Causes of Failure to Meet Payments on Irrigation District Obligations 194

The study here discussed was undertaken by the Giannini Foundation of Agricultural Economics of the University of California at the request of a fact-finding committee which had been appointed to make arrangements for the development of pertinent facts concerning the District's condition, its ability to pay, etc.

The members of this fact-finding committee are as follows:

J. S. Cone, Land appraiser, Merced, California
Frank Adams, Professor of Irrigation Investigations and Practice, University of California
M. R. Benedict, Professor of Agricultural Economics, University of California
Ward Minturn, Fresno
F. P. Nutting, President, American Seedless Raisin Company, San Francisco
Milo Rowell, Fresno
H. S. Shaffer, Judge of the Superior Court, Merced
H. B. Stoddard, Merced, Formerly cashier Merced Security Savings Bank

In addition to these, Mr. Robert Fullerton, Jr., of Pasadena, appointed by a committee representing holders of Merced Irrigation District bonds, has served as an observer and counsellor, being represented part of the time, during his absence in Canada, by Mr. R. L. Underhill, the observer selected by the same bondholders' committee to work with Mr. J. S. Cone in the appraisal and classification of the land of the District.

Professor Frank Adams was appointed by Dean C. B. Hutchison, jointly with the writer to represent the College of Agriculture in the study covered by this report. He has participated both in planning and carrying through the study and in the preparation of this report, but other duties and other studies on which he has been engaged have prevented him from assuming joint leadership of the study or joint authorship of this report. His counsel and wide experience with irrigation district problems have, however, been of great assistance in many phases of the study.

Acknowledgment is due to many people for advice and counsel; especially to Mr. Max Thelen, negotiator for the Merced Irrigation District, to C. F. Shaw, Professor of Soil Technology, University of California, to members of the Board of Directors of the Merced Irrigation District and to Mr. H. P. Sargent, Secretary of the District. Special acknowledgment is due for the effective help given on the field work by the following men: H. B. Stoddard, Wm. H. Alison, Jr., Paul Arnold, Kenneth Stoddard, John Fiske, William Ledbetter, and Elmer Wood. Without their conscientious and whole-hearted cooperation it would have been difficult if not impossible to carry out the study. H. B. Stoddard and Wm. H. Alison, Jr. have given especially freely of their time and energy in organizing and facilitating the field work, and their wide knowledge of the conditions in the District has been made available in a very helpful way. A number of specialists at the University and in the Irrigation Division, Bureau of Agricultural Engineering, U. S. Department of Agriculture, have been consulted from time to time, and have given freely of factual material and of advice. Mention should also be made of the sincere effort to provide a dependable and useful record which has been apparent on the part of the great majority of farmers visited in the survey.

paying Abilities of Farmers on Lands in the Merced Irrigation District, California

by

M. R. Benedict

Purposes of the Study

As indicated by its title, this report presents the results of an economic study of the Merced Irrigation District. It deals chiefly with the farm incomes, expenses, and tax-paying abilities of the farmers and farm lands of that area. The study was made at the request of the Board of Directors of the District and of committees representing the landowners and other farmers of the District. In addition to these, individual bondholders and the bondholders' protective committee expressed a desire that such a study be made of the economic condition and debt-carrying ability of the District. The occasion for the study was the current or prospective inability of the District to meet in full its payments of interest and maturing principal on its bonds.

The District was organized in 1919 and has an outstanding bonded indebtedness in excess of sixteen million dollars incurred in the period 1922 to 1926 for purchase or construction of its irrigation system and related hydroelectric plant. First default on its bond service payments occurred July 1, 1931 as a result in part of water shortage and greatly reduced power income, but also as a result of inability of the lands to meet their irrigation district assessments because of he very low prices received for farm products. While the original default, which s for bond interest only, had been discharged, other defaults had followed; l since there was uncertainty as to the future financial situation, it was e desire of the District, of the landowners, and of the bondholders that an impartial inquiry be made into the earning power of the lands of the District, or, expressed differently, into the assessment or tax-paying abilities of the lands.

The recent tremendous changes in the general level of prices, particularly in the prices at which farmers have had to sell their products, have created unprecedented problems in connection with debts of all kinds. Naturally such a situation has created unforeseen difficulties for many of the irrigation districts of California. These difficulties have been especially prominent in the case of those districts which carry unusually heavy bonded debts and in which agriculture has been going through recent and rather rapid changes.

Some understanding of the magnitude of the adjustments with which the farmers of the United States have been confronted in the past four years may be gained from the official estimates of the United States Department of Agriculture as to gross values of farm products in the period from 1929 to 1932. These figures are as follows:

1929	$11,845,000,000
1930	9,406,000,000
1931	6,855,000,000
1932	5,240,000,000

Gross incomes from the farms of the United States have, as these figures indicate, decreased by more than 50 per cent since 1929, and more than $6,000,000,000 have been lopped off from the purchasing and paying powers of the farmers of the nation. Similar figures for California alone are as follows:

1929	$712,000,000
1930	587,000,000
1931	439,000,000
1932	figures not available.

It will be seen that the changes in value for the products of California have been of a similar drastic nature. The data presented later in this report do not represent, therefore, a situation which is confined to this particular District, but one which is general both for California and for the United States as a whole. The impact of such a widespread debacle is, of course, most severe on individuals and communities that are heavily burdened with debt.

operating costs excluding wages to hired labor, taxes, interest, and rent, have not declined in any like proportion and taxes and interest have shown very little decline from the high levels of 1929. Labor costs and rents are the chief items in which significant decreases have occurred. Estimates from the United States Department of Agriculture as to the gross amounts of the first mentioned types of cost; that is, costs (exclusive of wages, taxes, interest, and rent), have changed in the period 1929 to 1931 as follows:

1929	$3,112,000,000
1930	2,777,000,000
1931	2,175,000,000

Stated in another way, some understanding of the change in the farmers' situation can be arrived at from the official figures on prices paid to farmers. In 1929 these averaged, for the United States, 138 per cent of the prices for the period from 1909 to 1914. In November, 1932, they had dropped to the seemingly impossible level of 54 per cent of the prices prevailing in the period 1909 to 1914. This has meant that the payment of given dollar values in repayment of loans, in interest on debts, in taxes, etc. has involved selling more than two and one-half times as much of the products grown as was necessary for the same purposes in 1929.

The Merced Irrigation District, one that has been formed in a comparatively recent period, has the largest aggregate bonded debt of any district in the state and has a relatively high bonded debt per acre. It has found the problem of meeting the present situation an extremely difficult one. The possibility of providing for the payments required in connection with the District's bonds rests largely upon the taxes which can be derived from the farms of the District. This source of income has been supplemented, in the case of the Merced District, by a portion of the revenues from the power produced by its power plant. Even the income from this source has, however, been greatly lessened by the small flow of [illegible] and interest rates, [illegible] during the [illegible], [illegible] of 1932, [illegible] which [illegible] [illegible] Department of Agriculture [illegible] [illegible] of the [illegible] is, [illegible] taxes, [illegible], and rent), have changed in the period 1910 to 1914 [illegible]

[illegible]	[illegible]	[illegible]
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Stated in another way, some understanding of the [illegible] is the [illegible] situation can be arrived at from the [illegible] figures on [illegible] the United States, [illegible] the period from 1909 to 1914. In [illegible], 1932, [illegible] level of [illegible] [illegible]. This [illegible] that [illegible] [illegible] as much [illegible] the same [illegible] in 1914.

The [illegible] Districts, [illegible] relatively [illegible], [illegible] the larger [illegible] and [illegible] relatively high [illegible]. [illegible] of [illegible] [illegible] for the [illegible] required [illegible] which can be [illegible]. This source of income has been supplemented, in the case of the [illegible] a portion of the [illegible] District, [illegible]. [illegible] from this source has, however, been greatly [illegible].

ally during the year ending September, 1931.[1] As a result of this situation, the District found itself unable on July 1, 1931 to meet completely its requirements for the payment of interest on bonds. While all bond delinquencies have now been met, up to and including those occurring on July 1, 1932, a situation has developed as a result of the reduced income of the landowners which is recognized by bondholders and landowners alike as requiring serious consideration and some rearrangement of the obligations of the District. The defaults have continued to increase in size, and the amounts due and unpaid on January 5, 1933 were:

On bond interest coupons	$336,115
On principal of bonds	46,500
Total	$382,615

In order that readers of the report may be familiar with the financial set-up, the obligations outstanding, and the trend in the District's financial status, the following summary as prepared by Mr. H. P. Sargent, Secretary of the District, is presented.

Funded Debt Outstanding, as of December 31, 1932

MERCED IRRIGATION DISTRICT

1st Issue

1st Division 6% Due Serially 1933-1950	$3,120,000
2nd Division 5½% Due Serially 1951-1953	1,800,000
3rd Division 5½% Due Serially 1954-1955	1,320,000
4th Division 6% Due Serially 1956-1962	5,760,000
Total outstanding and Authorized -- 1st issue	$12,000,000

2nd Issue

6% Due Serially 1937-1946 and 1963-1964

Total Outstanding and Authorized	$3,250,000

3rd Issue

5½% Due Serially 1965-1966

Total Outstanding and Authorized	$1,000,000
Total	$16,250,000

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[1] The mean annual flow has been estimated at about 1,000,000 acre feet. The flow since 1926 has been as follows:

Year ending September 30, 1927	989,000 acre feet
" " " " 1928	984,000 " "
" " " " 1929	513,000 " "
" " " " 1930	510,000 " "
" " " " 1931	260,000 " "
" " " " 1932	1,020,000 " "

January 2, 1933	
1st Division 6% -- Due 1933	$60,000
Bonds retired	13,500
Balance due 1933, registered	$46,500
Funded Debt as of January 16, 1933	$16,236,500"

STATEMENT OF DELINQUENT TAX ROLLS OF MERCED IRRIGATION DISTRICT, January 5, 1933
Exclusive of Penalties and Costs

Year	No. of assessments	Valuation	Rate	Tax roll	Delinquent last Monday in June	Per cent delinquent	Original number of tax sales	Amount delinquent 1/5/33	Number of sales unredeemed 1/5/33	Per cent delinquent 1/5/33
1920-21	3,882	$10,148,490	$1.40	$ 142,078.81	$ 13,831.23	9.74	570	$ 1.82	1	.0012
1922-23	5,524	13,734,440	2.73	374,950.07	61,601.86	16.43	712	16.70	4	.0044
1923-24	5,647	14,209,420	4.75	674,933.53	83,556.15	12.38	646	30.38	2	.0045
1924-25	5,846	22,260,300	4.20	934,932.60	79,706.93	8.52	540	64.82	4	.0069
1925-26	6,200	21,473,230	7.10	1,524,589.59	126,240.37	8.27	620	598.00	8	.0390
1926-27	6,385	20,995,430	6.30	1,321,528.56	141,240.53	10.68	707	630.80	10	.0477
1927-28	6,653	20,636,465	6.00	1,238,187.90	131,139.78	10.59	653	576.70	12	.0465
1928-29	6,845	20,686,900	6.00	1,242,393.00	118,249.90	9.51	737	4,901.85	66	.3940
1929-30	7,027	20,279,175	6.00	1,216,750.50	117,095.64	9.62	752	31,241.63	218	2.5600
1930-31	7,260	20,246,775	5.90	1,194,585.35	210,596.89	17.63	1,499	149,820.92	970	12.5000
1931-32	7,462	19,159,570	5.60	1,071,567.84	401,361.59	37.40	2,675	361,899.43	2,380	33.7000
1932-33	7,594	12,873,880	8.90	1,148,483.04						
				$12,084,980.79						

1932-33 Roll

1st installment	$689,189.03
Paid and deeded (1st inst.)	252,638.50
Delinquent (63.3%)	$436,550.53

(Delinquency 64.6% without considering deeded lands)

Note: The foregoing statistics do not separately consider property deeded to Merced Irrigation District.

"STATEMENT OF DELINQUENT TAXES 1932-33
INCLUDING FIRST INSTALLMENT AND AS
OF JANUARY 12th, 1933

New Delinquents - 1st Installment
1932-33 Tax - 38,793 acres
1 year - 43,199 "
2 years - 21,742 "
3 years - 6,115 "
4 years (not taken) - 700 acres

District lands - 10,492 acres

Net acres on Assessment Roll 1932-33 - 171,610 acres
Total land delinquent - 110,549 "
61,061 acres"

The Importance of Prompt and Definite Consideration of the Problems Arising in Cases of Default

Mr. Wells A. Hutchins of the United States Bureau of Agricultural Engineering published in 1929 the results of a study of thirty-seven irrigation projects which had defaulted on their bonds.[2] Mr. Hutchins draws the following conclusions concerning settlements in such cases. These are reproduced here owing to the fact that they represent one of the few attempts to develop general principles from the study of a number of cases of this type.

"Conclusions

"Financial reorganization of defaulting irrigation projects, to be completely effective, must correct all original causes of failure. Unhealed sore spots are fairly certain to cause further trouble.

"Prompt reorganization is financially profitable to creditors and landowners alike, as well as to all other interests dependent upon the stability and growth of the community. The longer an inevitable settlement is postponed, the harder the task of effecting it properly and the greater the loss to all parties concerned. Parties indirectly interested can benefit by taking the lead in effecting negotiations for a settlement promptly after the first default.

"Financial settlements are seldom spontaneous and seldom originate with the water users themselves, but usually require constant pushing by creditors or by some interested outside agency. Maintenance on the ground of an agent of the creditors or promotors can be of material help in negotiations with landowners and is practically indispensible in carrying out the terms of settlement.

"The bondholders' protective committee should be given absolute authority to carry through to conclusion such settlement as appears to them advisable. The larger the percentage of bonds deposited with the committee, the easier it will be to make an effective adjustment with landowners.

"A complete adjustment requires liquidating or refunding the claims of all creditors. An obligation not taken care of remains a liability and a menace so long as not outlawed, and to the extent of its relative importance will interfere with the successful working out of the plan.

"Creditors who refuse to participate in an adjustment may sometimes secure full settlement at the expense of consenting creditors, but in doing so

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[2] See United States Department of Agriculture, Circular No. 72, "Financial Settlements of Defaulting Irrigation Enterprises."

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they endanger the chances of successful settlement and may make it impossible to satisfy their own claims.

"Creditors of a project which has definitely defaulted from some deep-seated cause had best make up their minds to take a real loss. In any event they must start out by disregarding the actual amount of indebtedness, and conclude by offering settlements based upon annual payments which the lands can stand, of such character that they will invite acceptance by landowners. A refinancing plan that ignores this is fatally weak.

"Cooperation between creditors and landowners is essential to the successful working out of refinancing plans and preservation of the security. Generally speaking, a settlement can not be forced through regardless of the attitude of landowners, unless the creditors are prepared to go in and farm the land themselves or can find a ready supply of new settlers.

"Projects inadequately settled when reorganized must be allowed ample funds to finance the securing of new settlers and ample time in which to get them; for with certain outstanding exceptions, there is at present little to encourage expectation of an immediate revival of large-scale colonization of irrigation projects. Several reorganization plans in course of execution, predicated upon rapid influx of settlers, are encountering real setbacks, while others which are drawing mainly from dry-land farming centers are meeting with more or less success.

"Marketability of liquidating or refunding securities is an important factor in many refinancing plans, inasmuch as holders of defaulted irrigation securities generally prefer to take a loss and get out altogether than to accept new securities of the same project based upon more favorable terms of settlement.

"The blanket-lien theory of many State irrigation-district laws has failed to protect creditors in serious cases of default, but on the contrary has contributed heavily to growing demoralization of landowners. Various measures have been taken in framing reorganization plans to make liability for the compromised debt individual instead of general, thus protecting paying landowners and giving greater assurance of ultimate repayment to creditors.

"Execution of debt-settlement plans involves much expense. Third parties engaged in promoting such plans for financial profit, therefore, can not afford to guarantee full performance within a limited time where uncertainty prevails as to such vital matters as land colonization, markets, and psychological reactions of landowners."[3]

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[3] United States Department of Agriculture, Circular No. 72, pp. 4-5.

Many valuable suggestions relative to the settlement of problems similar to the one here under consideration are contained in other parts of the circular mentioned and will be of interest to many of the readers of this report. In Appendix M are presented the principal causes of financial difficulties in irrigation districts as summarized by Mr. Hutchins. Those which have apparently been most prominent as causes of difficulty in the Merced District are those numbered 8, 5, 10, and 3.

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INITIATION AND ORGANIZATION OF THE PROJECT

Following the first serious financial difficulties of the District which came to a head in the inability of the District to meet fully the interest due on its bonds on July 1, 1931, a committee representing a part of the bondholders was formed. This committee made certain informal studies of the economic conditions in the District, and entered into negotiations with the District in the fall of 1931. It was found impossible to reach an agreement at that time, and negotiations were dropped for the time being.

As the increasing difficulty of the District in meeting its obligations became more apparent, various organizations in Merced County, particularly the County Farm Bureau, urged action looking to an unbiased study of the situation and to negotiations based on the findings from such a study. As an outgrowth of this a committee of twenty-seven representing the landowners of the District was organized. This committee consists of five representatives from each of the five Divisions of the District and two members at large.

From this committee there was selected an Executive Committee of eight members. This Executive Committee, after a careful survey of possible negotiators, recommended to the Board of Directors of the District the appointment of Mr. Max Thelen of San Francisco, a former president of the California Railroad Commission and a man long experienced in the handling of difficult adjustments between conflicting interests. Mr. Thelen was accordingly appointed as the District's negotiator in its arrangements with the committees representing holders of Merced Irrigation District Bonds.

It was felt rather generally that it would be necessary, if negotiations were not to be carried on largely in the dark, that there be some careful marshalling of the facts as to the incomes from the farms and as to the qualities of the lands of the District.

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Through arrangements made by Mr. Thelen the fact-finding committee above indicated, composed of widely experienced men both from within and from outside the District, was appointed.

The bondholders' protective committee was invited to maintain a close contact with the planning and carrying out of the study. To this end that committee appointed Mr. Robert Fullerton, Jr. of Pasadena to act as an observer in connection with the committee's work. Mr. Fullerton has been represented part of the time, during his absence in Canada, by Mr. R. L. Underhill, the observer selected by the bondholders' protective committee to work with Mr. J. S. Cone in the appraisal and classification of the land of the District.

The land classification, more fully discussed in a later section, is a parallel activity carried out under the general direction of the fact-finding committee, and reported separately by Mr. J. S. Cone who made the survey involved.

GENERAL TRENDS AND CONDITIONS IN THE DISTRICT

Before taking up the specific results of the survey, it will perhaps aid in a clearer understanding of these if a brief summary of the crops grown and of the directions of change in these can be presented. Various other general conditions which bear upon and affect the interpretation of the statistical summaries are also shown in the pages immediately following.

Statistics of acreage changes for recent years are available for Merced County in the records of the State-Federal Crop Reporting Service. Those for the District have been prepared by Mr. Dooley P. Wheeler, County Horticultural Commissioner of Merced County. The county and District figures would not be expected to agree except in trend, though the bulk of the intensive crop production of the County is within the boundaries of the District. The first two sources are in the main based upon estimates rather than upon a section by section survey such as that made by the ditch tenders which has been used in arriving at the 1932 crop acreages shown in Table III.

Table I indicates the changes in acreage of a number of the most important horticultural crops of the Merced area as given in the estimates of the California Cooperative Crop Reporting Service. This source does not report acreages by subdivisions smaller than counties and the figures shown are therefore for Merced County. (See Table I.) However, since the chief development of crops of this type is in the Merced Irrigation District, the changes indicated are considered to be representative of what is occurring in the District itself. A similar estimate for the District alone as furnished by Mr. Dooley P. Wheeler, County Horticultural Commissioner of Merced County, is given in Table II. (See Table II.)

Table I

Acreage of Merced County Fruit and Nut Crops*

Commodity	Bearing						Non-bearing
	1927	1928	1929	1930	1931	1932	1932
	acres	acres	acres	acres	acres	acres	acres
Almonds	2,730	2,692	2,305	2,235	2,265	2,274	360
Apricots	2,104	2,216	1,513	1,572	1,485	1,250	0
Figs (except Kadotas)	7,274	8,815	7,015	7,382	7,081	7,017	25
Kadota figs	2,988	2,977	2,069	2,368	2,466	2,458	14
All figs	10,262	11,792	9,084	9,750	9,547	9,475	39
Raisin grapes	11,494	11,603	9,175	9,226	9,239	9,224	14
Table grapes	8,385	7,200	6,134	5,902	5,012	4,844	8
Wine grapes	4,125	4,984	6,044	5,233	5,194	5,137	19
All grapes	24,004	23,787	21,353	20,361	19,445	19,205	41
Olives	203	232	133	133	143	143	10
Cling peaches	5,346	6,013	5,321	5,116	4,633	4,138	12
Free peaches	3,100	3,178	3,486	3,748	3,288	3,396	98
All peaches	8,446	9,191	8,807	8,864	7,921	7,534	110
Walnuts	205	322	460	569	749	789	168

* Acreage Estimates, California Fruit and Nut Crops 1927 to 1932. Special Publication No. 117. California Cooperative Crop Reporting Service, Sacramento, 1932.

Table II

Crop Acreage -- Merced Irrigation District,* 1928-1932

Crop	Acreage				
	1928	1929	1930	1931	1932
	acres	acres	acres	acres	acres
Almonds	2,420	2,400	2,398	2,398	2,386
Apricots - Dry	**	1,650	1,625	1,237	1,025
Figs - Except Kadotas	**	**	**	6,654	**
Kadota figs - Fresh	2,500	**	**	2,480	**
All figs	**	**	**	9,134	**
Raisin grapes	5,840	6,050	5,990	5,970	5,955
Table grapes	5,340	4,940	4,895	4,439	4,240
Wine grapes	5,230	5,120	5,011	3,742	3,650
All grapes	16,410	16,110	15,896	14,151	13,845
Olives	93	93	93	93	93
Cling peaches	5,374	4,800	4,600	3,378	3,050
Fresh and dry peaches	3,500	3,350	3,320	3,122	3,120
All peaches	8,874	8,150	7,920	6,500	6,170
Walnuts	**	140	140	140	140
Apples	12	12	12	12	12
Corn	5,000	3,820	4,100	2,971	5,100
Citrus fruits	**	10	10	10	10
Berries	**	**	**	13	14
Chestnuts	**	**	**	12	12
Grain	12,600	17,300	21,600	27,113	20,000
Cotton	12,500	15,600	7,600	3,418	3,560
Blackeye beans	2,200	4,250	7,200	3,794	2,300
Grain hay	**	3,250	3,960	3,459	8,000
Alfalfa	16,350	18,000	19,200	18,425	18,600
Sudan	1,400	1,200	900	1,060	1,625
Sweet potatoes	3,500	3,500	3,800	3,936	5,800
Truck crops	**	110	120	161	216
Tomatoes	350	320	680	687	687
Peanuts	**	**	**	107	200
Onions	81	92	83	95	110
Garlic	16	14	11	13	10
All garden crops (including tomatoes)	**	536	892	956	1,023
Cantaloupes	200	180	170	27	204
Other melons	500	580	600	519	172
All melons	700	760	770	546	376
Rice	8,000	6,850	3,900	645	5,890
Pecans	**	**	**	7	7
Persimmons	**	**	**	1	1
Plums	**	105	128	133	106
Prunes	**	149	149	149	149
Nectarines	**	51	51	31	31
Silage crops	150	170	144	129	160

* From tabulations made by Mr. Dooley P. Wheeler, County Horticultural Commissioner of Merced County.

** Figures not available.

It will be noted from this that there is some tendency for acreages of most of the plantings to decline, though this tendency is more pronounced in some cases than in others. It is probable that acreage is practically stable on the lands well suited to the particular crops. In various parts of the District there has been some planting on lands not suited to the particular crops of which production was attempted. Where this has been the case, and in certain cases where complications of ownership, lack of capital, and other hindrances have occurred, plantings tend to be allowed to deteriorate to a point where they must eventually be removed.

According to the figures of the California Cooperative Crop Reporting Service, acreage of almonds in the County has declined roughly 500 acres, or about 17 per cent since 1927. Acreage of apricots has shown a rapid decline, being in 1932 about 50 per cent of the acreage shown in 1927. Acreage of figs has during this period remained substantially constant, though a moderate decline is shown. Acreage of raisin grapes has declined from 11,494 to 9,224, or about 20 per cent. Table grapes have shown a very large decline, approaching close to 50 per cent of the acreage. Wine grapes, on the other hand, have shown some increase, roughly 25 per cent.[4] Olives have never been of much importance in the District and are declining to a still less significant position. Clingstone peaches, one of the important crops of the District, have shown a consistent decline in acreage since 1928 and seem likely to show a further decline since some acreages are being removed, while the non-bearing acreage is

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[4] Local opinion indicates that wine-grape acreage will decrease in the future. It is stated that a number of the wine-grape vineyards on poor land have been allowed to remain because they are less expensive to handle at harvest time, many of the grapes being sold on the vines or at roadside points. Many of these vineyards have been poorly cared for and their production is said to be decreasing rapidly.

very small. Freestone peaches, on the other hand, seem to have shown a small increase. Walnuts have never been an important crop in the area, but have during this period shown rather substantial increases in acreage and very large percentage increases.

Acreages of the Various Crops in the Merced District in 1932 by Classes of Land

In order that the nature of the crops grown on the various classes of land might be clearly presented, the 25 ditch tenders in the District were asked to plot by sections and subdivisions of sections the acreages and locations of the crops grown in each of their ditch districts. The land in each section was indicated as of classes I, II, or III by Mr. J. S. Cone and Mr. R. L. Underhill as a result of their survey and classification of the lands.[5] The grades indicated were as follows:

Class I. Land which had been classed by Mr. Cone and Mr. Underhill as 85 per cent or above.

Class II. Land assigned ratings from 60 to 80 per cent inclusive.

Class III. Lands given ratings less than 60 per cent.

The gradings thus made are considerably rougher than the ones made in the Cone-Underhill survey, and therefore in many cases whole sections could be included in one class. In other cases quarter sections or 40's could be so included. Where the land was extremely variable Mr. Cone and Mr. Underhill have indicated the variations in grade as accurately as the refinement of their survey would permit. This reduces it in some cases to classifications in terms of areas as small as 10 to 20 acres.

The acreages thus arrived at were totaled by classes and are presented in Tables III and IV. (See Tables III and IV.)

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[5] For description of the bases on which the percentage ratings in the land classification were made see Appendix B.

Table III

Acres in Various Types of Production in the Merced Irrigation District by Classes of Land (as shown by the ditch-tenders' survey coordinated with the Cone-Underhill survey)

Type of farming operations	Acres in class of land			
	I	II	III	Total
A	8,872	2,868	1,294	13,034
Almonds	1,469	622	527	2,618
Apples	5			5
Apricots	924	236	58	1,218
Cherries	15		5	20
Dehydrator	2			2
Olives	7	6		13
Orchard	7			7
Peaches	4,647	1,135	563	6,345
Pecans	5			5
Plums	48	10	14	72
Prunes	90	31	20	141
Trees	1,448	779	107	2,334
Walnuts	205	49		254
B	4,457	3,536	1,495	9,488
Dry yard	78	10		88
Figs	4,379	3,526	1,495	9,400
C	8,659	9,620	5,220	23,519
Alfalfa	7,471	8,105	2,801	18,377
Alfalfa, seeded		25		25
Alfalfa sudan		8		8
Barley hay		78		78
Cane			2	2
Clover	15			15
Corn			803	803
Corral	25			25
Cowpeas			17	17
Dallas grass			10	10
Egyptian corn	225	179	323	727
Grain hay	347	712	428	1,487
Hay	9	5	15	29
Johnson grass	20			20
Oat hay	85			85
Sec grass		24	70	94
Sorghum	10		1	11
Sudan	275	222	152	649
Sunflowers	197	262	598	1,057
D	8,734	5,006	1,594	15,334
Vines	8,734	5,006	1,594	15,334
E	5,355	12,439	26,633	44,427
Barley	1,174	3,790	6,825	11,789
Cotton	810	1,372	101	2,283
Grain	3,011	5,060	10,939	19,010
Highland		8	27	35
Oats	125	225	197	547
Rice		60	5,598	5,658
Rye		25		25
Summer fallow	167	1,768	2,874	4,809
Wheat	68	131	72	271
F**	6,982	9,944	2,635	19,561
Asparagus	10			10
Beans	773	1,005	681	2,459
Beans, blackeye		40		40
Bermuda grass	10	4	55	69
Berries and trees	5			5
Buildings, farm	12	5		17
Corn	719	1,325		2,044

Type of farming operations	Acres in class of land			
	I	II	III	Total
F continued				
Ear corn			1	1
Field corn		22		22
Family orchard			7	7
Garden	1,102	311	139	1,552
Garden barley		5		5
Grass			15	15
Grove			30	30
Melons	463	618	252	1,333
No crop	1,102		100	1,202
Open land		1,933	12	1,945
Peanuts	106	25	1	132
Plowed land		35		35
Poultry yard	8			8
Pumpkins	5			5
Residence	20	4		24
Sweets	1,689	3,176	1,190	6,055
Sweets & melons			5	5
Tomatoes		10	9	19
Waste	39			39
Weeds	753	1,127		1,880
Willows			1	1
Unknown	166	299	137	602
G**	1,433	6,724	41,572	49,729
Open land		729	6,235	6,964
Pasture	1,388	5,047	29,402	35,837
Ranch			60	60
Salt grass	5			5
Swamp	12	159	277	448
Weeds		640	5,287	5,927
Wild hay	28	149	311	488
H	2,304	1,601	665	4,570
Air port		5	100	105
Buildings			10	10
Camp	4		5	9
Canal	5		5	10
Cemetery		40		40
City dump		10		10
City property unworked		12		12
County hospital		20		20
Creek	144	67	44	255
Ditches	5		8	13
Excavated		2		2
Golf club			40	40
Gum Grove	130	25	10	165
Home lots	67	70		137
Lake Yosemite			257	257
Nursery stock	48			48
Park, city		320		320
Pottery plant		23		23
Railroad	67	49	17	133
Road	113	77	22	212
Schools	13	92		105
Sewer farm			140	140
Service station		1		1
Slough	17	2	5	24
Subdivision	122	20		142
Substation		20	2	22
Urban	1,564	736		2,300
Warehouse	5	5		10

Type of farming operations	Acres in class of land			
	I	II	III	Total
H continued				
Yard		5		5
Grand total of land in classes	46,796	51,758	81,108	179,662*

* The total acreage shown here does not coincide with the total acreage for the District owing to the fact that acreage in part of the city of Merced, part of the area around Lake Yosemite, and certain other areas were not included in the ditch tenders' survey.

** The acreages of unknown crops, weeds, Bermuda grass, waste land, and open land were classed in F unless the acreage was given in large plots. In this case it was classed in G.

Table IV

Acres in Various Types of Production,* as Shown by Ditch-tenders' Survey Coordinated with Cone-Underhill Land Classification

Type of farming operations	Acres in class of land			Total acres
	I	II	III	
A	8,872	2,868	1,294	13,034
B	4,457	3,536	1,495	9,488
C	8,659	9,640	5,220	23,519
D	8,734	5,006	1,594	15,334
E	5,355	12,439	26,633	44,427
F**	6,982	9,944	2,635	19,561
G**	1,433	6,724	41,572	49,729
H#	2,304	1,601	665	4,570
Total	46,796	51,758	81,108	179,662

* The total acreage shown here does not coincide with the total acreage for the District owing to the fact that acreage in part of the city of Merced, part of Lake Yosemite, and certain other areas were not included in the ditch-tenders' survey.

** Such items as weeds, Bermuda grass, waste land, no crop, unclassified, bare land, open land, and vacant land were classed in F unless the acreage was given in large plots. In this case it was classed in G.

# H includes urban property and other acreage considered as non-agricultural, such as: subdivision, home lots, residence, and buildings not on the farm; gum groves, nursery stock, canals, creeks, ditches, roads and railroads, sloughs, schools, camps, Lake Yosemite, cemetery, county hospital, air port, golf club, substation, park, city dump, service stations, pottery plant and city sewer.

The types of farming operation to which these correspond are:

A -- Deciduous
B -- Figs
C -- Dairy
D -- Vines
E -- Grain and general
F -- Truck
G -- Grazing
H -- City, villages, and miscellaneous

(It will be noted that this grouping is by specific acreages devoted to the given crops rather than by farms growing chiefly certain types of crops as in the survey. It will also be noted that this includes the acreages in small farms which are not included in the survey.)

These tables give some little indication of the fact that the District has not yet reached very definite stability as to the crops grown on specific pieces of land. For example, some 7,000 to 8,000 acres of Class I land are found still being used for grain, pasture, and other relatively extensive types of farming which almost certainly cannot pay the District assessments which would be assignable to that class of land. On the other hand, rather considerable acreages of intensive crops are to be found on land graded as No. III, all of which almost certainly is not good enough to warrant the high expenditures per acre which these intensive crops involve; for example, Class III land includes 527 acres of almonds, 1,495 acres of figs, 563 acres of peaches, and 1,594 acres of vines.[6]

Some very significant problems are presented by both of these types of maladjustment. Where good land has not been intensively developed, it is almost certain, under the present procedure for handling District assessments, to pass into the hands of the District. These extensive crops, which in general are in competition with non-irrigated crops in various parts of the country, cannot hope to produce a net amount which will cover the District assessments levied on Class I land. If conditions were more prosperous and if reasonable expansion were in prospect, owners would undoubtedly carry these lands, paying on them for some years assessments which they would not be yielding at the time, and looking to future development to reward them for the sacrifice. At the present time the indications are not favorable to such development on any extensive scale and neither the cash nor credit which would be needed is available for present development of these lands until such time as there is better prospect of prof-

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[6] It should be recognized that soil variations occur in very marked degree in extremely short distances in the Merced District. Certain parts, therefore, in the acreage classed as No. 1 will be of comparatively low grade and certain parts of the acreage classed as No. III will be relatively good. Nevertheless, the situation in its general aspects is reflected by the table shown.

[illegible]

[illegible]

[illegible]

its.[1] Turning to the intensive crops on Class III land, it is very probable that these will, over the next few years, be gradually abandoned and pulled out. Present competition is so keen in nearly all lines of specialized production, as well as in general crops, that a product grown on inefficient land or by inefficient growers is likely to be unable to continue to compete. The procedure under which the first grade land not now highly developed would probably yield the largest return to the District would be under some classification for assessment purposes which would take into account the use to which the land is put. The same result might be accomplished by collecting such portion of the District income as does not come from power or is not required for bond payments through tolls on water used, thus in part relieving the non-irrigated land. At any rate, it seems desirable that the possibilities of meeting the problem of payments by undeveloped land should be thoroughly explored by the District and the landowners. Clearly there are difficulties in this procedure, and perhaps legal obstacles, but without some more satisfactory solution it seems likely that this land will be acquired by the District and will yield what it can pay as rental when devoted to relatively extensive crops. It may, however, represent a future asset when times are more prosperous and when it can be resold. It is not likely that the District would or could profitably undertake to develop it intensively. It would seem that the only change which is likely to occur in the case of land in Class III is a change in the direction of more extensive operations, practically a pasture or grain-raising type of farming, and its earning power for purposes of District payments can probably best be judged by thinking of it in terms of these

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[1] Much of the land of this type is badly infested with Johnson and Bermuda grass, and is not at present in condition for irrigated farming. Such land is likely to require from one to two years of dry farming with summer plowing to eradicate weeds and grasses. During such time there will be little income and some little expense. Under present conditions many of the owners prefer to get what they can through using it for pasture rather than to go to further expense.

uses. Not all of it, in fact a great deal of it, probably will not make that shift without in the process passing out of the hands of present owners and temporarily or more permanently into the hands of the District. It would appear that where such land has not already passed into the hands of the District an effort should be made to put it on an assessed basis such that the tax levied can be carried from the income produced when the land is devoted to relatively extensive crops. Land of this type already taken over by the District should as far as possible be organized into units such that it can be used for extensive types of farming. Considerable areas of it probably do not warrant the expense of providing water at present prices for the products.

Proportion of Rented and of Owner-operated Farms

For the farms covered in this survey the acreages rented and those operated by the owners are shown in Table V. In many cases the rented farms are well and continuously operated, but there are numerous cases, such as those discussed in the following section, where rented farms are operated in a very haphazard way, not infrequently being left idle or growing up to weeds.

Problems Arising in the Case of Nonresident Ownership, Partially Developed Farms, and Inefficient Sizes of Units

In the group of farms from which survey records were taken there was found to be a significant number of farms owned by nonresidents, purchased in many cases with rather inadequate knowledge both of the possibilities of the returns from the farms of the area and of the expenses which would be necessary if the lands were to be fully developed. In a considerable number of these cases the plan was to put in funds for some years from sources other than the farms themselves and the investment was looked upon as a form of saving, combined with certain speculative gains from the development of the land. Many of these farms

Table V

Owner-operated as Compared to Tenant-operated Acreages for the 321 Farms From Which Records Were Secured (for the year 1931)

Type of farm	I			II			III			Grand total		
	Operated by owner	Rented	Total	Operated by owner	Rented	Total	Operated by owner	Rented	Total	Operated by owner	Rented	Total
Deciduous	1,816	235	2,051	890	22	912	0	0	0	2,706	257	2,963
Dairy	1,032	74	1,106	2,402	151	2,553	395	0	395	3,829	225	4,054
Truck	656	194	850	1,265	1,494	2,759	245½	244	489½	2,166½	1,932	4,098½
Figs	569	30	599	600	29	629	0	0	0	1,169	59	1,228
Vineyards	1,820	225	2,045	1,096	0	1,096	20	40	60	2,936	265	3,201
General	682	261	943	321	1,403	1,724	778	2,625	3,403	1,781	4,289	6,070
Total	6,575	1,019	7,594	6,574	3,099	9,673	1,438½	2,909	4,347½	14,587½	7,027	21,614½

are at present very inadequately cared for and in not a few cases are yielding almost no return. Owners of them have continued for the most part, up to the present time, to pay the carrying charges on them from funds derived from other sources. Many of them, however, are unable to continue to do that and possibly would not even if they were able to, owing to the fact that they do not see very good prospects of having in the end a value corresponding to what they would have put in.

The brief narrative statements of specific cases which are presented in Appendix L are possibly the best means of showing the nature of this problem. It is a problem that cannot well be reduced to statistical form. Most such farms fall far down in the submarginal class and cannot reasonably be expected to show either a return to the owner or any worth while tax yielding ability while handled as they are at present. Apparently the only way that they can be brought into a situation such that they will represent real property values and be able to contribute in an effective way to the income of the District will be through arrangements such that owners can afford to retain them and such that the acquisition and settlement of them by local people with adequate knowledge and capital can proceed. Even then some years will be required for them to come into more effective production. They are at present in many cases either only partly operated or in some cases not operated at all. A part of this difficulty is, of course, due to the unsettled status of the District's affairs. Land in the District cannot be sold at the present time nor will loaning agencies lend on it, and tenants with capital to operate at the high costs which are involved in these intensive types of agriculture are not very generally available. The extension of credit locally is practically at a standstill. The result is that such lands are picked up spasmodically by temporary renters who operate them if prices look encouraging for particular annual crops and let them lie idle if the price outlook is not sufficiently encouraging. Rather considerable acreages of sweet

potatoes, beans, melons, and grain are grown on lands of this type.[8] In other cases lands which have been foreclosed by loaning agencies tend to lie more or less idle unless these agencies have suitable organizations for administering them. Only the largest of the holders of foreclosed lands have anything that approaches suitable administrative arrangement for such handling.

In spite of the problems indicated above, it seems necessary to recognize that there is need of a tax situation which will force the operation of some of the farms now lying idle. The principle lying back of the provision for full taxation on lands not fully developed is that such full taxation will force the earlier development of these in order that they may carry their taxes. In prosperous times and when there is room for expansion in given lines of production, there is much to be said for that policy. Under present conditions and with the present outlook as to future supplies and prices, policies should apparently look to providing a tax high enough to encourage the use of such lands in some moderately intensive type of production, but not high enough to cause the land to be abandoned to the District. It is only by getting it into production and retaining it in production that it can contribute to the District's income, and it seems likely that its possible contribution in that way will be greater if it is in private hands than if it is in the hands of the District.

The lines of development indicated above appear to point to the establishment in a good many cases of somewhat different sizes and types of farm units. Some of the units as now set up are too small for efficient operation and too little diversified to make effective use of labor supplies and other resources. Changes of this type will, however, require some years and in many cases will

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[8] Farming of this type of course gives rise to serious after problems through failure to control weeds, over-irrigating, and other practices which affect adversely the later usefulness and value of the land.

involve changes in ownership and the making of new investments of capital.

Another of the serious problems which has grown out of the inadequate operation of many of the farms and the failure to keep up intensive cultivation on them has been the marked increase in the weed problem, especially in the case of Johnson and Bermuda grass. This has been occurring not only so far as the farms themselves are concerned, but has been further aggravated by the efforts of the District to economize on the care of its canals.

Mention should also be made of the serious difficulties arising in certain areas as a result of seepage and of alkali conditions. These, however, are taken into account in the survey made by Mr. Cone and Mr. Underhill, and are therefore not further discussed in this report.

Still a further important factor affecting the situation lies in the marked increase in alfalfa wilt, especially during the period since 1920. This has resulted both in a reduction of yields and in a shortening of the life of the alfalfa fields. It is possible that improved technical methods may eventually aid in overcoming that difficulty.

Where landowners have become severely impoverished, even though they may still be retaining possession of the land, very serious deterioration in orchards and vineyards is occurring. This represents, of course, a loss both to the individual and to those who are concerned with the earning abilities of the District if such plantings are on lands capable of maintaining an efficient type of production.

Price Levels and Their Relation to Ability to Carry Tax and Debt Loads

From the introductory section of this report it is sufficiently evident that one of the major causes of the difficulties in which the Merced Irrigation District finds itself lies in the unprecedented and catastrophic changes which

have occurred in the prices received by farmers since the time at which the obligations under consideration were undertaken. This inevitably brings up for important consideration the question as to whether a reversal of this great price change may again bring about a situation where the District would be able to meet its obligations in full. Great as the effects of this price change have been, it is not alone the cause of the difficulty, and a return to the prices of the period just preceding 1930 would not entirely remove the difficulty with which the District is confronted. There is considerable evidence even in the income and expense figures for 1929 that the District was carrying a tax load which bore crushingly upon its earning ability. The significance of that situation was obscured to a considerable extent by certain invisible sources of income which have now practically ceased to be a factor in the situation. These invisible sources of income were payments by non-resident owners of land who had other sources of income, and payments by resident owners out of accumulated savings which they had at the time the District began to function. Evidence of these large inputs of outside funds and of savings funds came to the surface repeatedly in the course of the investigation. A number of typical cases of this type are presented in Appendix L. Some question may be raised as to whether the District ever has reached a stage of earning ability such that it could meet out of the production income of its farms the cost of carrying its bonded indebtedness. Conditions which have been rather fully described and discussed in earlier reports on the District by various agencies have pointed out the way in which the District came to have a bonded debt some 30 per cent greater than the original estimates called for. The burden of this excess of debt over the original estimates has, of course, been aggravated by the fact that the District is comparatively young and that it is not fully developed in the intensive way which was visualized by many of its promoters. Some of the land in the District is poorer than it was then thought to be and unsuited to either an intensive development or

a development capable of carrying any considerable expenditure for irrigation works. Some of the land that was formerly considered suitable for intensive development and probably was suited to such improvement has been rendered practically unusable through seepage and other unforeseen causes.

In addition to the effects growing out of the change in price levels and the shrinkage of available incomes from outside has been the very marked decrease over certain of these years in the income from power. As a whole, however, the power income is likely to constitute a stabilizing influence in the financial affairs of the District. Unfortunately, in the period just past the extremely low power income and the extremely low prices have tended to coincide.

To return to a consideration of the price level problem in relation to the District's ability to pay, only a brief comment seems suited to the scope of this report. Very extensive and voluminous studies have been made of the price level. These studies bring out two types of price relationship which are very important in the present situation. One is the change in the general level of all prices, a change resting largely upon the volume of credit and currency in use, the activity of business, and the speed of turnover of credit and currency. The other is a relationship of the prices of specific products to each other and to this general price level. These relationships depend to a very large extent upon the relative quantities produced in the case of these products and on the relationship of these supplies to the demands for them. The latter type of price relationship is somewhat predictable over moderate periods of time. This is especially true in the case of such crops as tree fruits and the products of vines where the trend of production can be fairly well established. The course of the general price level itself is much less predictable. Both types of price change are important in considering the future prospects of the District.

Probably the best informed opinion among economists specializing in

problems of money and credit leans to the view that the general level of prices will not rise rapidly and probably cannot be brought up very materially by one country acting alone. If this presumption is correct, there seems not a very encouraging prospect of a rapid rise in the general level of prices since such rise is likely to have to wait upon the development of a much better balanced world situation and much better international cooperation than we now have. This does not mean that there are no indications of such a development, but the achievement of better cooperation among nations is bound to be slow and halting, with backsets from time to time so that an early and favorable large effect upon the general price level is hardly to be expected.

If prices are likely to remain at very low levels, further adjustments in many of the price relationships of the nation will inevitably occur. Among these will be a lowering of taxes, a lowering of prices of some of the manufactured goods which farmers buy, etc. If it seems likely that prices may continue to show comparatively violent fluctuations, such as have been prevalent in the period since 1915, logic would appear to point to greater justice in the relations between the landowners of the District and the holders of its bonds if some contingent basis of payment could be evolved which would provide for larger payments in case prices rise materially and for smaller payments in case prices are lower. To effect a permanent settlement upon the basis of present extremely low prices would, if prices should rise, constitute a great injustice to the owners of bonds. To effect a permanent settlement upon the basis of expected prices higher than the present would, if such higher prices did not materialize, result in renewed defaulting and the reappearance of the problem, probably in an aggravated form and with a morale on the part of the District inhabitants much less fortunate than that which appears to prevail at the present time.

Unfortunately, even the prospect of a rather substantial rise in the general price level does not offer as much encouragement to agricultural products

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as we might wish it did. This is due to the fact that, while stocks of goods in industrial lines have been rather generally worked down to comparatively low levels, in agriculture, storage stocks of most of the major products and, what in this particular industry amounts to the same thing, production capacity is still very much expanded and is beyond the probable needs even should the industrial communities regain some measure of prosperity. It is difficult, if not impossible, to bring about in the agricultural industries an abandonment of the use of full productive capacity. Their expanded productive capacity operates, therefore, in much the same way as a continuing excess in storage. Again, there is the further difficulty that the capacity of society to use foodstuffs, which are the principal products of agriculture, is quite limited. Beyond certain limits increased supplies are not taken no matter how low the price may be. This overexpanded position on the part of agriculture seems likely, therefore, to keep it in a relatively unfavorable position even if the general price level should rise substantially.

The prices of agricultural products are also affected adversely in that a very large part of this production depends upon foreign markets. Even if the general level of prices in the United States should rise, it does not necessarily follow that the prices of the export products would be raised materially thereby. They still would depend upon the purchasing power which other countries could exert in the United States. Such purchasing ability depends largely upon the ability of these countries to export goods to the United States. Such development of purchasing power we have undertaken to cut off to a large extent by our efforts to exclude from this country practically all types of products which they would exchange for our agricultural products. Other countries faced with the necessity, if they are to buy American farm products, of sending us gold, have, in a very large number of cases, established very drastic barriers to the outflow of our surplus agricultural products in order to protect their own gold supplies and to

develop their own industries. Until this situation begins to break down and a better or less restricted flow of goods internationally is possible, we are faced with the prospect of rather low prices on agricultural products, of which a substantial part moves into export, and we also have a very definite deflationary tendency in the international credit situation on which our own volume of credit depends to a large extent. Even where products do not enter much into export trade, if they are in competition with a large number of products which do depend upon export markets, there is an immediate tendency for these more sheltered lines of production to be expanded until they come down to a measure of prosperity similar to that of the export lines. In spite of these unfavorable indications, it is nevertheless true that any important increase in the general price level would unquestionably improve materially the District's ability to pay on its obligations.

The considerations indicated above point to a probability that new plantings and further rapid development of land not now highly developed will not appear sufficiently profitable to cause investors to put in the funds necessary for large increases in earning power from these sources. The acreage trends shown in tables I and II do not indicate that such new development is occurring, though this might be stimulated somewhat by any improvement in the District's financial status. Not only is this lack of incentive to further investment a factor but further than that the credit of most of the individuals interviewed in the District has been exhausted to an extent which makes it practically impossible for them to undertake any extensive new investments. Apart from this it appears possible that the District will develop somewhat more slowly than was anticipated in the early stages of its development. Certain of its lines of production have been confronted with markets so badly oversupplied that sale of the entire production was almost impossible. A number of these products move into comparatively narrow markets which could readily be oversupplied by any considerable expansion of acreage either in this District or in a number of others which are well suited

to their production. This may indicate a necessity for the District to look in the future to developing more largely certain lines of production for which there is a wider market, as, for example, the products of its dairies. If this tendency develops, it will probably be faced with a rather extended and somewhat difficult period of transition requiring some little new investment in the development of new types of production and rather unprofitable production in lines which are undergoing forced declines. Fuller discussions of the outlook in connection with several of the leading products of the Merced District is shown in Appendix E of this report.

GENERAL PLAN OF THE ECONOMIC SURVEY

Most agricultural areas in California present a wide range of soil conditions with very abrupt changes from farm to farm and even from field to field on a given farm. This condition is characteristic of the Merced area.[9] As a result partly of this exceedingly complex soil situation and partly of the methods of settlement used and of the varying interests, financial abilities and so on of those who have developed the farms of the District, there is a wide variety of types and sizes of farms in the District. In many cases the size of the unit is that which seemed to lend itself best to the sales policies of real estate and development companies rather than a type and size of unit which would have been selected by an experienced local farmer or a specialist in farm management. The result of this has been a considerable number of very small units and probably a smaller degree of diversification in lines of production than would prove to be most profitable in the long run.

A general survey of the farm types in the District, based largely on the observation and experience of people long resident in the area, indicated that the following types of farms could be recognized as characteristic of the agriculture of the District:

A. Farms on which the principal enterprise and, in most cases, the principal source of income consists in the production of peaches,

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[9] Those interested in a more careful examination of these features will find them rather fully covered in "Soil Survey of the Merced Area, California" issued by the Bureau of Soils, United States Department of Agriculture, 1916. This covers the technical soil variations. (Soil specialists of the University of California and of the United States Department of Agriculture who have recently looked over portions of the District agree, however, that the soil survey published in 1916 is not entirely accurate, the portion pertaining to the area running from around Tuttle to south and west of Merced being in special need of correction.) The economic or income producing abilities of the soil do not necessarily follow technical soil classifications. The land classification mentioned above gives a clearer understanding of the relative value relationships.

apricots, almonds, walnuts, or some combination of these. In this District these farms depend for the most part on peach production, the acreages of the other crops mentioned being comparatively small.

B. Farms on which fig production constitutes the major enterprise.

C. Farms depending primarily on the production of alfalfa and dairy products. These are mostly dairy farms selling little or no hay, but farms which do raise alfalfa for sale have been included with them since dairy farming constitutes, so far as the land is concerned, mainly another way of selling the hay produced.

D. Farms devoted chiefly to grape production.

E. Farms devoted chiefly to the production of grain. These are, in many cases, not irrigated. Frequently they lie above the ditches, are too rough to irrigate, or consist of land that has not been developed to a very high stage of intensity. This group, however, does not include the rice lands which are largely under one control, and are covered in a separate phase of the report since their characteristics are very different from those of the ordinary grain farms.

F. Farms characterized by a more diversified group of enterprises, that is, having no one enterprise predominating over all others.

G. Grazing lands: These are mainly in the hands of a few large operators and carry rather well established cash rentals. They have, therefore, not been included in the samples drawn but are treated as a unit separately.

H. City and village properties, largely nonagricultural in nature.

I. Industrial properties, including such things as cement plants, pottery works, railroads, etc.

The very small agricultural properties appear to present a somewhat differ-

ent problem than those which are large enough to be definitely classed as farms or ranches. Many of these smaller properties represent part-time farming ventures or have been purchased by individuals who are not primarily farmers. In such cases there is often some other source of income, and the property is not, or perhaps it is better to say should not be, looked upon as a balanced business and family unit. An attempt to separate these from the properties which are more specifically commercial agricultural enterprises necessarily involves certain arbitrary assumptions except as a detailed analysis of every individual property in the District is made. In many cases subdivisions have been made in units of ten acres. There is some little tendency for a property which consists of less than twenty acres to be of ten acres or less in size. The investigators feel that the very small properties, even though used for commercial agriculture, present less of a problem, so far as the purposes of this study are concerned, than do the larger parcels of land. In the first place, many of the owners of these depend partly on other sources of income. In the second place, the District tax on these parcels, even though relatively high per acre, does not run into such large sums, and, where farming is the main source of income, not infrequently applies to a very intensive type of agriculture. It seems likely, therefore, that these properties may be able to carry their proportion of the load if their taxes are not pyramided through widespread delinquency of District and County taxes owed on the larger farms and ranches. The validity of this assumption is examined more fully in a later section.[10] (See Appendix I.)

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[10] In the cases where these farms are the sole source of income it seems likely they will eventually have to be combined into larger operating units unless operated very intensively.

It is obvious that no hard and fast line can be drawn between such small properties and the larger ones. It seemed reasonable, however, to include in

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this class all parcels of less than twenty acres. It is the opinion of the subcommittee which discussed this problem that the most significant tax delinquency problems lie in the situation presented by the properties in groups A to G inclusive, of those indicated above, and, within these, in the properties involving twenty acres or more of land. It will be apparent that such a division leaves some fairly distinctive agricultural operations in the group of properties of less than twenty acres and some which are really part-time farming units in the groups of twenty acres or more. Nevertheless, the committee still feels this to be a justifiable basis of division on which to arrive at a clearer view of the situation.

The ditch tenders of the District reported 1,638 separate pieces of farm land of twenty acres or more, (not including certain large corporation farms which are reported separately) obviously too many to warrant an attempt to get specific individual records from each, especially in the limited time available for this study. It was necessary therefore to settle upon some means of securing a representative sample from these which could be used in estimating the situation for the group as a whole. As a means to this end the descriptions of the different farms as shown by the ditch-tenders' reports were placed on separate slips of paper, and these were sorted into groups A to F inclusive.

All slips for a given group were then shuffled in a basket and an agreed number of slips drawn successively to constitute a sample considered representative of the farms of such group.[1]

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[1] In a few cases where the record of a farm, when actually taken, showed it to belong in some other group than that for which it was drawn, the record was transferred to such other group for summarization. An agreed number of additional slips was drawn to serve as alternates for farms for which consistent or satisfactorily complete records could not be obtained.

The actual drawings were made jointly by Mr. J. S. Cone, employed by the District to make the land classification, and Mr. R. L. Underhill, the observer employed by the Bondholders Protective Committee. It will be noted that the drawings were strictly according to lot and should show all types of farms, the best, the poorest, and the intermediate, about in the proportions in which they occur in the District as a whole.

The numbers of farms falling in each group and the numbers drawn are indicated below:

Group		No. of farms in class	Size of sample	Number of additional farms drawn
A	Peaches, apricots, almonds, and walnuts	111	36	20
B	Figs	177	36	20
C	Dairy and alfalfa	393	60	20
D	Vines	283	60	20
E	Grain	221	48	20
F	Truck crops and general farming	279	60	20
	Rice (not drawn)	35	--	--
	Pasture lands (not drawn)	139	--	--
		1,638	300	120

Field men then visited the farms thus drawn and secured, by the survey method commonly used in Farm Management studies, a record of the expenses, incomes, investments, etc. on these farms.[12] These records covered the farming operations for the years 1929, 1930, and 1931. Since the field work was started in the latter part of August, 1932 it was not possible to cover the 1932 business. Some indication of the relation of this to the other years shown is given, however, in a later section. (See Appendix D.)

Changes in inventory are not shown. It was felt that showing the financial record for three years would aid more in giving a clear picture of the situation, and of the changes that have occurred, than to have a very minute record for one

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[12] See copy of the question blanks used, attached as Appendix A of this report.

year. The records include about as much information as it is practical to secure at one sitting with each of the farmers interviewed. The inventory changes from year to year are comparatively unimportant because of the perishable nature of the principal crops grown in the District, and, in so far as they do exist, they are largely taken account of by covering the business of the three years instead of one.

There were inevitably certain farms for which records could not be secured. Owners had died or lived at great distances; in a few cases the language handicap was so great or the available information so meagre that it was not regarded as usable. In these cases the particular farms were passed, and successively drawn farms from the "additional" list were substituted. Records of County taxes were taken from the County records, and the records of income from dairy products were for the most part secured from the creameries purchasing milk and cream in the District. In all, 299 usable records were secured in addition to the summaries from several of the larger corporation farming organizations.

The aim has been throughout to keep in readily understandable form the information on costs and returns. Two alternative procedures were considered; one, to attempt to allocate specific costs per acre to each kind of crop, and to obtain as nearly as possible the value of the product per acre, and to apply these values to the estimated acreages in the District. The other plan consists of taking the total expense of each farm and the total income, and reducing these to the basis of acre values for the acreage on which taxes must be paid. The first procedure has probably been the more usual one in California studies of this type, but has been somewhat less characteristic of farm management studies in many of the other states. While both ways of going about the problem have their advantages, the second has been chosen in this study on the basis of the following considerations:

1. The allocation of specific costs to each crop on a given farm in-

volves a great deal of arbitrary assignment of given joint costs to the different crops. This gives rise to much difference of opinion as to how much cost should be borne by each specific crop.

2. The farmer is better informed as to total expense; for example, for labor, than he is as to specific amounts of labor chargeable to given crops. The better his knowledge of the items covered, the more accurate is the record that can be secured from him.
3. Non-cash items such as family labor, use of equipment, and so on are not only subject to much controversy as to how they may be allocated among various crops, but to make such allocation is a very time-consuming process running beyond the time limits for which this study was planned.
4. The objective sought, namely the ability of these farms to pay District taxes will, in the opinion of the investigators, be more accurately presented to view by considering each farm's entire expense and total income and reducing these to an acre basis than by looking at the farm business piecemeal in terms of specific crops.

This plan of computation leads to a somewhat wider range of costs and returns per acre in each type of farm group than would probably be shown for the specific acreage devoted to the particular crop on which the grouping is based. This is due to the fact that a farm may, for example, be mainly dependent upon peach production for its income, but may include five acres of alfalfa and twenty acres of peaches. Another farm in the same class may have twenty acres of peaches and ten acres of truck crops or grain. Both are primarily peach farms, but the total income, probably chiefly from peaches, will in the two cases show different returns per acre even though the actual income from peaches be the same. On the other hand, the tax must be paid on all of the acres whether in peaches or not,

and the summary shown seems therefore to be the truest representation of what the farm can do in meeting its taxes.

Records taken by the survey method are based largely on the farmer's remembrance of his transactions, supported by such book records as he keeps. These frequently are far from complete. It is recognized that some of the records thus secured will be subject to some little error. Past experience with the survey method indicates, however, that such errors tend to be compensating rather than cumulative. The farmer is apt to overlook some of the minor items of income. He is even more likely to overlook minor items of expense. Question blanks are so designed as to raise the question of each type and kind of expense and income so as to bring it up for specific consideration by the farmer. The record as given is, however, the most accurate that can be attained in a business which does not in general maintain complete book records such as corporations are likely to have. The records are, of course, subject to greater inaccuracy for 1929 and 1930 than for 1931 owing to the longer period elapsing since the business of those years was transacted. It must be recognized that the incentives for biased replies are greater in the present case than in ordinary farm management studies. The fieldmen taking the records have, however, labored conscientiously to keep out intentional bias, and in so far as practical, the results have been checked as to their reasonableness and accuracy. A later summarization applies to the acreages in the District, a carefully made estimate of average production and prices which will afford an additional check on the figures secured from farmers of the District.

Viewpoint from which the Study is Approached

The study covered in this report is designed to present as clearly as possible certain factual information concerning the Merced District and the conditions in it. This, it is hoped, may be helpful to the landowners of the

District and to the holders of the bonds of the District in considering constructive plans for dealing with the situation and promoting the best interests of all concerned.

In looking at the problems involved, four rather distinct points of view are recognizable. These are as follows:

1. That of the landowners in the District.
2. That of the holders of the District's obligations.
3. That of the holders of obligations given by the individual farmers of the District and of other taxing districts of the area.
4. A public point of view represented by the interests of the state and the county in the achievement of some solution of the District's problems which will provide for the continuation of the operation of the farms of the area and for a minimization of the destruction of wealth and of inequity as among parties of interest.

These various points of view have some features in common and some in which they may be more or less directly at odds. It seems certain that none of the interests can be well served by any procedure that does not provide some incentive that will encourage the active and efficient operation of the farms of the District, since these farms constitute the source from which most of the income here under consideration must come. This report attempts to visualize that situation in terms of an assumption that the lands of the District will continue to be operated actively and for the most part by individual farmers. It seeks to set forth as clearly as possible what conditions seem to be necessary to the maintaining of the wealth production of the farms and it also seeks to develop factual material which will be useful in arriving at an equitable basis for adjustments among the various interests concerned.

The study has of necessity been carried out in as short a period as seemed possible. Because of this some refinement of procedure was omitted which might

have added to some extent to the accuracy and fullness of detail. The urgency of the problems and the plan to postpone definite negotiations until the information developed by this study had been made available have seemed to warrant crowding the work into this briefer period even at the expense of some refinement which could otherwise have been included. In addition to this, the fact that somewhat new procedures and the development of the basic principles involved have seemed to be necessary, has complicated the study and some little work still remains to be done in interpreting and organizing the material secured.

Types of Expenses and Costs Involved

The gross income of the farms of the District is at any given time a rather fixed amount. It depends upon prices, physical production, the stage of development, and the skill of the farmers. The first of these is almost wholly beyond the control of the farmers of the area. The second is partly controllable and, on established farms, is usually handled as well as the farmers know how to handle it except for deficiencies in operating practice which result from inadequate working capital or from an unsatisfactory price outlook. Land or orchards not developed to high stages of production can only be brought into higher production with time and with the further investment of capital. The initiation of new investments depends, of course, upon the outlook for profits from such investments. To put the matter more simply, the total income of the farms of the District can be changed very little at any given time, and, even over a period of time, the uncontrollable changes are likely to be more significant than the controllable ones.

Out of this gross income, more or less fixed at given times, must come not only such payments as are made for interest and retirement of bonds but a number of other types of expenditure of varying degrees of urgency. Closer examination of these various types of costs and expenditures will lead to a clearer under-

standing of what can and what cannot be done in the way of meeting taxes of various kinds. The following classifications of cost have been made in this survey:

A. Cash operating expenses other than for labor.

This group of expenditures represents the actual cash outlay of these farmers for goods purchased. Such items as supplies, repairs, feed, etc. are included in this classification. In general the prices of such items have remained much higher in proportion to their pre-war levels than those of products which farmers sell. For the United States as a whole, the United States Department of Agriculture gives an index figure in September, 1932 of 106 per cent of the pre-war level in the case of commodities purchased by farmers for use in production. This may be compared to an index of 54, by the same source, for prices of all major farm products sold. The amount of this item of expenses can be reduced by the farmers of the District only in so far as they are able to reduce the amounts of such goods purchased. In the past three years the amounts so purchased have, in the judgment of the investigators, been reduced practically to an absolute minimum. It may be questioned, in fact, whether these farmers have not purchased too little in the way of supplies to maintain the farms of the District in an efficient producing condition. This means that, except as prices of these commodities decline, practically no reduction in this item of expenses is possible under any conceivable plan of operating the farms of the District. It is true that certain of the large farming corporations have found it possible to make wholesale purchases of farm supplies at somewhat lower figures than the prevailing retail prices. The saving thus effected, however, is partly or wholly offset by necessary expenses of administration in handling such arrangements. The expenses indicated as Class A must, therefore, be regarded as a first charge against the income of the farms of the District if farming is to be carried on.

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B. Expenses for labor.

The labor used in production is provided in one or both of two ways. Either it is outside labor hired or it is labor supplied by the farm operator and his family. Where the labor is hired a definite figure for this expense is usually obtainable and has been shown separate from the value of family labor. A very large part of the labor is, however, supplied by farm operators and their families. The method used to arrive at a figure for this cost has been to secure an estimate of the number of months of hired man labor that would be required to carry on the same operations if the family labor were not available. To the estimate thus obtained the following wage rates have been applied: for 1929 and 1930, 35 cents per hour without board; for 1931, 25 cents per hour; in 1932 the prevailing rate was about 20 cents per hour, although it has been 15 cents in some cases. Labor which can be hired for 15 cents is, however, usually not as efficient as that which the farmers have been accustomed to securing. Where labor is boarded an allowance is made of $1.00 per day for board, room, and washing for the years 1929, 1930, and 1931. The customary charge for this has dropped to 75 cents per day in 1932. The prevailing practice of the area is for laborers to board themselves.

The labor rates for hired help are now so low that they constitute practically only a bare living wage and are virtually irreducible if laborers are to continue to work on these farms. Because of this fact it has been assumed that there is no appreciable margin of profit in the charges assigned to farm labor and that any means by which the farms might be operated other than by their present operators would necessitate a similar or larger expenditure. The estimates of amounts of labor which would have to be hired if family labor were not available are, of course, somewhat rough and cannot be reduced to an extremely fine basis. For some operations children or women can do as much as full grown men. The investigators have, however, made every effort to get as clear a picture as possible

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of the actual equivalent labor necessary if operations were handled by hired help. In most cases the operator and family labor are probably more effectively used than a similar amount of hired help would be.

The expense shown for Class B costs in 1931 is therefore regarded as being practically an irreducible minimum if farming operations are to be carried on in anything like a normal fashion. Only by drastic changes in type of agriculture and the use of much more extensive farming operations could this be materially reduced. More extensive types of farming would, however, probably reduce rather than increase the ability of the land to pay District taxes. Mention should probably be made that it is doubtful if the present operators and their families would continue to work at the rates of return indicated for 1932 if the usual opportunities for work in other localities and in other industries were available. During the present depressed period they have little opportunity to shift to work which will give them a better return or less arduous work. As conditions improve in non-agricultural pursuits, a development which will probably occur earlier than an improvement in agriculture, it is hardly to be expected that the operations in the District can be maintained on a basis as low as that of 1932.

C. Depreciation on equipment, plantings, and soil.

The continued use of equipment, the increasing age of plantings, and the continued cultivation of the soil will involve continuous deductions from certain elements of value existing in the District at a given time. In the normal course of events deductions of this type tend to be offset or more than offset by new investments, new plantings, and by the application of fertilizers. In periods of greatly depressed conditions such expenditures for replacement can be deferred for a time, though failure to make them leads to a progressive using up of capital assets which are, of course, important to the interests not only of the landowner but of the holder of the District's bonds as well. Such continuous withdrawal of assets over a period of years can, in the course of time, leave an area illy

equipped for any effective type of production. It has much the same effect as the prosecution of a long war has upon a nation. One of the serious problems of Germany since the War has been that very one of building up the capital equipment which was brought to a very low level during the war period. A similar situation existed in the case of the American railroads.

From the standpoint of a continuance of effective production, depreciation presents several problems. In the first place it is hardly to be expected that improvements and equipment will be maintained unless the income from the lands can be so distributed as to permit an amount to go to the landowners and operators sufficient to cover the depreciation as well as the expenses indicated under A and B. On the other hand, it must be recognized that this is an expense which can, to a considerable extent, be deferred for periods of a few years. It must also be recognized, however, that operators in the District have been proceeding for practically three years now with very little expenditure for the offsetting of such depreciation. Any settlement of the District's problems which looks to dealing with its financial program over a long period of years must inevitably give very careful consideration to some plan which will provide both the means and the inducement for investments of this type to be maintained. If they are not made, the earning ability and with it the tax-paying ability of the District are certain to decline.

The above comment brings into consideration a further difficult problem. Provisions which make allowance for replacement of expenditures, but on the basis of a minimum living wage such as was indicated under B above do not necessarily insure that this replacement will be made. If the conditions of payment are such as practically to eliminate any value in the raw land, a factor which is one of the most significant incentives for maintaining the capital investments on the land, it is entirely conceivable that farmers may choose to use for current living some of the income theoretically assigned to replacement of deteriorating

investments or even to transfer income of this type to investments elsewhere, thus causing a gradual withdrawal of capital from this area. It is impossible to state at this point what sort of arrangement is necessary to provide the incentives needed to offset a tendency of that kind. If it should prove possible to set up a somewhat flexible basis of charges for meeting bond interest and principal it might be possible to gauge this from time to time by careful observation as to whether plantings and other investments are being maintained. If some rigid plan looking to a settlement over the whole period of the life of the bonds is contemplated, probably the only approach to this problem must be through an allowance of income above taxes which will give sufficient value to the raw land to provide an incentive to maintain the structures and plantings on it. As a factual basis for consideration of the matter it has seemed not to appear practical to do other than show as clearly as possible what average annual investment would be necessary over a period of years to offset the depreciation occurring on these farms. This is accordingly shown in the costs under Class C. Over a period of years the actual depreciation assignable to new investments varies somewhat according to changes in the costs of commodities purchased and of labor. The bases on which the depreciations shown were computed were developed after numerous committee meetings with local people, after survey of nearly all available records, and after consultation with various specialists of the College of Agriculture of the University of California. Those who are familiar with the problems of computing depreciation will appreciate that no depreciation schedules can be set up which will meet with universal approval. The same machine in the hands of different operators and under different farm conditions will have different periods of life. Buildings with good foundations will last longer than those with poor ones and the life will be affected by the amounts of paint used, and the provision for current repairing. Some plantings with good care will last as much as twice or more the life of others which receive poorer care or which are not on the same

kind of soil. The figures used in this connection are regarded as representative for the conditions in the Merced area, but very considerable variations in both directions from them will be found in individual cases. The bases used in computing investment and depreciation are to be found in Appendix C of this report.

D. County taxes.

These as shown represent the costs of conducting the local government and the schools and county and local road systems. Efforts are being made to bring about reductions in these, and there is little doubt that they will be modified to some extent. Such adjustments are recognized, however, as being slow processes, and it is difficult to predict how much reduction of this kind can be made. Certain counteracting factors are concerned. One of these is the fact that most counties are encountering increased demands for poor relief. Another is the possibility that a continuing serious deficit in state finances might result in a state tax on property which would be added to that for county and local purposes. Certain of the county and school expenses cannot be changed except through default since they represent fixed obligations for payments on county and school district bonds. Items of that kind tend to hold the budgets to more uniform amounts than they would be as a result of purely current expenses.

E. Interest on investment.

Of a still different type is the cost which may be imputed in the form of interest on the investment. So far as investments which have already been made are concerned, these will be continued in use whether they do or do not make a return in the form of interest. Only if return drops below the point of no interest and down to a point which does not cover necessary current replacements will investments already made tend to be thrown out of use. On the other hand, the matter of a return on investment or of a lack of return has much to do with the maintenance of production in the District. For fuller consideration invest-

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ment may be separated into two types. These correspond roughly to the distinction which the economist makes between capital in the sense of structures or goods created through the efforts of man, and property which is not the result of man's efforts but has been afforded by nature. The business man usually thinks in terms of a commercial valuation on these and lumps them both together as capital, but they do not behave the same in circumstances like those here under study. A part of the investment which had been made in the District has been in the form of payment for raw land. This raw land was a natural product and does not have to be replaced.

The other type of investment is represented by buildings, machinery, trees and vines, leveling operations, etc. Much of this must sooner or later be replaced. As in the case of depreciation, such investment will not be made again unless there seems a reasonable possibility of a return of the amounts invested, together with interest on it for the period of its use. Looking to the longer period problem, landowners must see some possibility of covering this item of expense or they are likely to effect a gradual withdrawal of capital in the manner indicated above in the discussion of depreciation as a cost. For the purpose of this study, a part of the investment put in in the form of human effort and the use of machines may be regarded as in a similar class with the value of the raw land. It is that part which consists of expenditures for the construction of ditches, for the rough leveling of the land, etc. Such expenditures represent sunken investments which cannot be withdrawn and can be largely omitted from consideration in a problem such as that which is at present before the landowners and bondholders of the District. Return on valuations given to the raw land needs to be considered only to the extent that it is important, as indicated above, to provide an incentive for continuance of production and the maintenance of the capital invested in the District. It is a well known fact that basically the valuation given to land is a capitalization

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of the amounts which the buyers of land estimate this land will produce over and above the expenses of production indicated under A, B, C, D and E above, added to an estimated present value of probable future advances or declines in such capitalized value of the land. It is not a cost in the same sense that items A, B, C, D and E are. This valuation of raw land is to a large extent the residual claimant after all other items of expense have been covered. It therefore reacts downward very sharply in times of low income and may rise relatively rapidly if farm income over costs is increasing. It is largely out of the net rent; that is, the return above costs A, B, C, D and the part of E applying to investments requiring replacement, that District taxes can be met over a period of time. In the case of irrigation districts there are rather considerable amounts of non-withdrawable investment, returns on which can be absorbed in taxes without materially checking production. It will be apparent that the income which, over a period of years, is assignable to the payment of bond interest and principal is very similar in nature to that which is assignable as an income on the ownership of the raw land. It is true that the irrigation system represents an actual capital investment in the economic sense of the term, but it is also true that that investment cannot be withdrawn and has no value except in its association with the land. It is much like an investment which has been made in a railroad grade or a piece of trackage. It has no use except that for which it was intended. District taxes can absorb and continue to absorb all income on marginal farms except that necessary to meet the expenses of classes A, B, C and D above and that portion of E which applies to capital which can be withdrawn from the District. Such amounts of residual income apply to the raw land plus the irrigation structures and other non-perishable improvements of the District and such amounts as are left over after District and County taxes are paid will go to the maintenance of a value in the land of the District.

Some further explanation is needed relative to the class of land and the

class of farmers to which the above analysis applies. The quality of land in the District varies considerably from unit to unit. Also, the efficiencies and financial abilities of the farmers vary considerably from farm to farm. Taxes on a given quality of land cannot be laid in proportion to the earning abilities of the various qualities of farmers on this type of land. Under the constitutional provisions of this country, the taxes and District assessments must be in proportion to the valuations placed upon the land. This means that only in the case of the poorer farmers can such a uniform levy against the lands of different farmers be made high enough to absorb all of the net return to land above such costs as are indicated in A, B, C, D and E. Some of the poorer farmers will always be submarginal farmers. They will not be able to meet any assessment which is likely to be levied and will eventually lose out and be replaced by others. This occurs in all businesses and in all lines of work. From the standpoint of self-interest on the part of the holders of bonds it is not feasible to raise the level of taxation to such an extent that the farmers displaced will not be replaced by others at least as capable.

Above the level of ability to pay established by the marginal farmers of the District will be a certain percentage of super-marginal farmers who are able to make somewhat better returns than the marginal farmers. Such better returns will accrue to them in the form of higher returns for their labor and capital than those indicated. This part of the income of the farms cannot be reached by any form of property taxes since to attempt to absorb it would involve either unequal taxation or the raising of the levels of taxes to a point where so many farmers would be displaced that land would be transferred to the District on a wholesale scale and would not find new buyers. The income which the better farmers are able to make in excess of what the marginal farmers are able to make will be used in various ways. For one thing, it will probably result in a better content of living than is possible on the basis of returns to family labor indicated under B above. For another thing, it constitutes a basis on which a considerable part of the private loans of the area can be carried. The lending agency which loans to individuals can make a distinction which is not possible to the taxing agency. A loan can be made to a farmer who is better than the marginal farmer and interest on it may be paid. Loans to marginal farmers or to farmers below the margin certainly cannot and will not be paid. This phase of the problem brings out a very important relationship between the private obligations owing by farmers in the District and the public obligations owed by them. It also illustrates the inexpediency of any attempt to lower in a uniform percentage way the obligations owed to private lending agencies. Such an attempt to lower these uniformly would lessen rather than increase the effectiveness, in terms of the prosperity of the District, of such amounts of loss as the lending agencies are capable of absorbing. They must inevitably take considerable losses on any loans which have been made to marginal or submarginal farmers. It is by using their capacity for absorbtion of losses to meet these losses that the area will best reach a condition of financial stability. To absorb losses in cases of farmers

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above the margin would lessen their ability to meet the other situations and would not benefit the holders of obligations supported by taxing powers, since a property tax cannot reach the income which these better farmers make over and above that made by the marginal farmers. Private lending agencies are undoubtedly taking very substantial losses on obligations due them. The full amount of such losses is in most cases not yet known even by the lending agencies themselves since properties acquired by them through foreclosure are taken over on their books at the amounts due them, and the extent of the loss is not measured until the properties are resold. Their losses, however, will come largely from a selective portion of those owing to them and not in the form of a uniform loss on loans due from good and poor farmers alike. It is, of course, necessary to recognize that if prices continue as low as those of 1932 and other conditions are no more favorable, a very large part of the farmers is likely to be at or below the margin even with no payment of District assessments, and obligations owed by them will be of doubtful value whether they be private or public obligations.

Relative Contractibility and Expansibility of the Various Types of Costs

Brief mention should be made of the probable reaction of the various types of costs previously discussed to changes in the general situation as to prices and business conditions.

Class A. Cash operating expenses other than for labor.

These respond relatively slowly to changes in farm conditions. As will be seen in Table VI they remained relatively constant from 1921 to 1929 at between 150 and 160 per cent of the pre-war average. In 1930 they dropped to 146, in 1931 to 126, and in November, 1932 stood at 106. (The figures are for the United States as shown by the United States Department of Agriculture in "The

Agricultural Situation," December, 1932, page 21.)

Table VI

Year	Farm wages, United States*	Prices paid by farmers for commodities bought, United States
	1	2
1921	150	156
1922	146	152
1923	166	153
1924	166	154
1925	168	159
1926	171	156
1927	170	154
1928	169	156
1929	170	155
1930	152	146
1931	116	126
1932	Oct. 84	Nov. 106

* Ibid. p. 20.

Class B. Labor both hired and that supplied by the farm family.

Farm wages tend to reflect more fully changes in farm prosperity than do prices of commodities purchased by farmers. They are affected, however, not only by farm prosperity but by activity in other industries as well. In 1921 farm wages, over the United States as a whole, had come down to an index of 150, based on pre-war wages, and later rose to 171 in 1926 during the period of relatively active business in non-farming activities. With the onset of the present depression they have dropped rather rapidly to 152 in 1930, 116 in 1931, and stood in October, 1932 at 84.

Family labor will respond over short periods of time even more completely to changed agricultural conditions; that is, for short periods of time families may continue to carry on at almost no income. This, however, cannot be continued for any great length of time, partly because the family resources will

not permit and partly because after a few years the families will choose to engage in other than agricultural pursuits rather than to continue to work for little or no return. While conditions in other industries are extremely depressed, such families have little opportunity to shift and are likely to continue to operate the farms possibly even at less than prevailing wage rates until better opportunities present themselves elsewhere.

Class C. Depreciation.

As already indicated, the cost involved in depreciation both of equipment and of plantings may, so far as its effect on production is concerned, shrink to almost nothing for short periods of time in the case of those investments which are already in the farmer's possession. Such is not the case, however, where replacements actually must be made, and, if unfavorable conditions prevail for very many years, such replacements must be made or production must be definitely curtailed. Wherever replacements are involved, they will have followed approximately the cost changes indicated for commodities bought by farmers and the changes in the cost of farm labor.

Class E. Interest charges.

These, like depreciation charges, can be omitted for a time provided the farmer owns the capital. Where he does not own his capital but must pay interest on it this cost must be met, often at relatively higher rates, or the farmer is forced out of business.

The Per-Acre Income and Expenses as Shown by Records from 299 Farms in the Merced Irrigation District, 1929, 1930, and 1931

The following tables present information relative to incomes and expenses for each of the six type-groups for which samples were drawn. These groups are as follows:

A. Farms drawing their income chiefly from deciduous fruits (excluding figs).
B. Farms on which the chief source of income is figs.
C. Farms chiefly engaged in the production of dairy products and alfalfa.
D. Farms chiefly devoted to grape or raisin production.
E. Farms devoted mainly to the production of grain and general field crops.
F. Truck farms and those having such diverse sources of income that they could not well be classified in any of the other groups.

For each of these farm groups the following tables are presented:

1. Farms arranged in order of gross incomes per acre and by classes of land, 1931, 1930, and 1929.
2. Farms arranged in order of cash costs per acre other than labor and taxes, 1931, 1930, and 1929.
3. Farms arranged in order of costs for labor, 1931, 1930, and 1929.
4. Farms arranged in order of costs A+B+C+D, 1931, 1930, and 1929.
5. Farms arranged in order of net return per acre over costs A+B, 1931, 1930, and 1929.
6. Farms arranged in order of net return per acre over costs A+B+C+D. 1931, 1930, and 1929.

Of the 1,638 farms of 20 acres or more, 111 were classed in Group A, farms

having their principal income from deciduous fruits (excluding figs).[13]

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[13] The 1,638 farms above mentioned do not include certain of the larger corporation farms nor, except in a few instances, the lands which had passed into the hands of the District (about 10,000 acres at the time the survey was started.

The total acreage of these 111 farms is 10,319½. The sample shown from these consists of 49 farms or nearly one-half of the total, and includes 2,812 acres of land. Of this sample, 38 farms, or 77.5 per cent, are on land rated as Class I, and the remainder, 22.5 per cent, are on land rated as Class II. None of them is on Class III land.

One hundred seventy-seven farms involving 10,125½ acres were classified in Group B, farms chiefly devoted to figs. The sample from these includes 21 farms with a total acreage of 1,246.[14] In the sample, 13 farms, or 62 per cent, are on Class I land; 7, or 33 per cent, are on Class II land. The sample runs more strongly to Class I and Class II land than does the actual distribution of the fig plantings.

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[14] This group is the one least adequately represented. The survey came at a time when work was very active in the fig orchards, and for various reasons the taking of these records was considerably slowed up, so that it was incomplete when the last of those in other groups were in. Rather than delay the summarization, the smaller sample was used. It is believed to be fairly representative of the conditions on these farms, though not as large as was planned.

In Group C, dairy and alfalfa farms, 393 farms were classified, involving 24,034½ acres. The sample drawn from these consists of 67 farms with a total of 4,273 acres. Of these 25, or 37 per cent, are on Class I land; 35, or 52 per cent, are on Class II land; the remaining 7 farms being on Class III land.

Group D, farms devoted primarily to vineyards, consisted of 283 farms with

a total acreage of 15,074. The sample drawn consists in this case of 53 farms with a total of 4,104 acres. Of these 36, or 68 per cent, are on Class I land; 15, or 28 per cent, are on Class II land; and the remaining 2 are on Class III land.

Group E, grain and general farms, consisted of 221 farms with a total of 18,882 acres. The sample drawn from these consists of 49 farms with a total of 6,070 acres. Of these 13, or 26½ per cent, are on Class I land; 12, or 24½ per cent are on Class II land; while the bulk of them, 24, or 49 per cent, are on Class III land.

The truck farm group, which is less homogeneous than the others, consisted of 279 farms with a total of 12,501 acres. From these a sample of 60 farms was secured consisting of a total of 4,452½ acres. Of these only 14, or 23 1/3 per cent, were on Class I land; the bulk of them, 35, or 58 1/3 per cent, were on Class II land; and 11, or 18 1/3 per cent, were on Class III land.

Thirty-five of the farms were devoted chiefly to rice. These are practically all on Class III land, so classified because of its limited adaptability for crops other than rice, and were not sampled. A summarization of results from a considerable acreage of these lands is presented in the latter part of this section.

The results from farms operated by several of the larger corporations are also presented separately. These are operated along quite different lines from those prevailing on the majority of the farms and involve large acreages. It was felt, therefore, that to include them with the others would be likely to confuse readers of the report. They are therefore separately summarized. For these corporation farms the records in most cases have been carefully kept by experienced bookkeepers. They thus represent a very accurate summary of the situation on these farms. The general situation shown by them is much the same as that

shown for the farms covered in the survey. They have in most cases able and experienced management and fairly well settled operating arrangements. They apparently have some advantages in buying and selling, which are partly, or perhaps even wholly, offset, under present conditions, by somewhat higher overhead.

Of the costs shown the ones on which differences of opinion are most likely to arise are those involving family labor and depreciation. Family labor is ordinarily more valuable per hour when used for seasonal types of work. Thus dairy farms usually do not show as high a return per hour of labor put in as do cash crop farms, but, since they use labor so continuously through the year, they may yield a higher yearly income than do some of the farms which show a much higher per hour income at certain times. For these and various other reasons it is extremely difficult to get a satisfactory basis for evaluating family labor. The rate per hour used may be somewhat high for farms which, like dairy farms, are heavy and continuous users of labor. If so, this tends to throw more of these farms into the losing group than should be there. This should not, however, disturb in any marked extent relationships between years since the same procedure is used for the records for each of the three years, but with a lower per hour rate in 1931.

It is also true that even though a farmer put in his time throughout the year there may not be productive work which would be hired for all of the time. On the other hand, the allowance for the full time of a farmer's own labor, which at the 1931 rate is figured at $780 for the year, does not appear to allow more than a living wage at prices prevailing in 1931. It has, in fact, been criticized for being too low as well as for being too high. It must be recognized that the income assigned to family labor plus any return over costs as shown must cover not only such part of the farm family living as is not supplied by the farm but also interest which is paid on any funds borrowed, any interest return on depreci-

ating investment that may be necessary to cause it to be maintained, and any payments that may be made in the form of District assessments. Nevertheless it is probably true that farmers will, in case of necessity, operate their farms for considerable lengths of time on lower returns for family labor than those indicated. There are certain contributions to the family living which come from the use of the farm home and from the use of supplies produced on the farms. These contributions are not as important in the Merced area as in sections where farmers more generally keep cows, pigs, and chickens and where a larger range of home-grown foods is customarily raised.

Depreciation for buildings and equipment is based on values as of recent years. It is possible that replacement costs for these may be somewhat lower in the years immediately before us. Many of the farms are lacking in adequate buildings, but it is not likely that new buildings will be added to any extent in the next few years. The major part of the depreciation charge shown is that on plantings of trees, vines, and alfalfa. The bases of computing depreciation on these will be found in Appendix C.

The valuations and depreciations figured on these have been put as nearly as possible in terms of present costs of replacement, and are in most cases lower than the actual expenditures if the plantings were put in in recent years. Possibly the costs of replacement and of new planting will decline somewhat further if price levels stay down. On the other hand, many of the older orchards were brought in on a one or two dollars per acre water charge. As they go out of production, renewal is likely to be on a more expensive basis than the original planting.

Whatever may be the judgment of the individual reader of this report concerning these two elements of cost, there will be less disagreement concerning the relationships between the conditions in the different years shown Since the

procedure in handling these various cost factors has been the same for all of the years, the following tables should afford a dependable picture of the changes in net earnings which have occurred over this three-year period. In order, however, that the operating expense may be seen in its barest essentials the returns over costs for supplies, labor, and for county taxes are shown. While it should not be assumed that these costs cover all expenses necessary for continuing production, the returns over these items show an earning situation in which very substantial percentages of the farms are operating at a loss.

Table VII

Farms Growing Mainly Deciduous Fruit (Excluding Figs) in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Gross Income per Acre, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre
Land in Class I[1]								
125	20	$138.25	125	20	$248.10	10	48	$240.40
153	40	122.00	116	85	234.56	153	40	185.75
3	34	105.82	258	37	120.32	2	80	133.45
116	124	101.35	128	62	117.74	116	85	132.74
128	62	84.84	83	30	116.73	3	34	129.76
2	80	76.41	153	40	115.75	212	52	96.83
323	40	76.18	3	34	106.76	133	60	89.57
258	37	71.95	2	80	84.78	95	39	88.21
96	78	63.75	212	52	84.17	11	48	84.79
259	36	61.86	96	78	82.25	35	56	82.73
83	30	60.97	323	40	77.88	134	45	78.71
212	52	60.48	136	65	74.25	135	65	69.86
35	56	58.04	35	56	69.55	129	130	64.42
10	48	53.48	8	40	66.37	83	30	57.97
134	45	52.87	259	36	63.25	154	39	57.67
136	65	51.79	133	60	61.95	258	37	55.86
93	23	50.00	132	40	61.25	8	40	55.00
5	27	45.96	10	48	58.15	33	56	45.18
33	56	43.21	134	45	57.24	113	19	41.00
206	53	42.57	154	39	53.51	206	53	37.53
8	40	41.17	33	56	50.54	125	20	37.50
131	41	40.73	93	23	45.22	209	19	36.63
113	19	40.42	11	48	40.62	323	40	30.30
11	48	40.62	95	49	39.73	12	98	29.73
66	49	34.92	206	53	39.57	93	23	28.13
132	40	34.62	129	130	39.08	259	36	26.81
209	19	33.68	113	19	37.68	132	40	21.25
154	39	32.56	209	19	36.47	5	27	17.78
133	60	27.85	260	59	33.89	66	49	11.63
129	130	25.15	12	98	25.64	127	27	6.11
260	59	18.64	131	41	18.53	128	62	**
12	98	11.22	66	49	10.20	96	78	**
95	49	11.12	127	27	5.56	131	41	**
127	27	8.15	5*	27	**	260	59	**
Land in Class II								
265	41	63.73	265	41	77.56	4	133	60.90
37	68	51.13	37	68	63.25	37	68	48.44
295	22	49.05	214	56	62.23	1	382	47.12
28	43	42.65	4	133	57.89	7	41	32.12
32	40	35.15	32	40	43.80	32	40	30.10
31	35	30.46	7	41	36.41	214	56	23.23
214	56	25.79	31	35	34.71	31	35	18.29
1	382	20.88	28	43	33.51	28	43	13.30
24	51	19.06	24	51	29.20	265	41	3.66
7	41	18.88	1	382	18.25	24	51	0.00
4	133	17.53	295*	22	**	295	22	**
Land in Class III								
--	0	0.00	--	0	0.00	--	0	0.00

[1] Schedule numbers 60, 84, 91 and 130 of land in Class I, which are cash-rented farms, have not been included.

* Rented for the year specified.

** Data incomplete.

Table VIII

Farms Growing Mainly Deciduous Fruit (Excluding Figs) in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Cash Costs per Acre Other Than Labor and Taxes, 1931, 1930, and 1929#

1931			1930			1929		
Schedule number	Acres	Cash costs per acre other than labor and taxes	Schedule number	Acres	Cash costs per acre other than labor and taxes	Schedule number	Acres	Cash costs per acre other than labor and taxes
			Land in Class I					
125	20	$66.85	125	20	$51.70	2	80	$59.71
11	48	37.06	153	40	45.00	125	20	37.95
2	80	34.80	2	80	35.69	113	19	32.89
113	19	33.11	113	19	31.05	153	40	32.20
153	40	31.30	116	85	30.34	258	37	28.59
209	19	30.79	209	19	29.79	95	39	27.90
258	37	30.30	83	30	29.70	3	34	25.76
3	34	28.50	258	37	28.38	136	65	25.57
136	65	25.22	3	34	24.44	209	19	25.47
154	39	22.28	11	48	21.65	154	39	22.59
66	49	20.00	95	49	21.59	11	48	19.35
116	124	19.65	136	65	21.06	116	85	18.25
83	30	17.43	323	40	20.95	129	130	17.38
128	62	17.42	154	39	20.18	93	23	16.26
259	36	15.92	134	45	19.89	83	30	15.47
323	40	15.55	10	48	15.90	10	48	15.33
95	49	15.27	212	52	14.83	133	60	15.20
10	48	15.55	66	49	13.18	8	40	12.75
129	130	14.50	129	130	13.18	212	52	11.48
8	40	13.95	8	40	13.15	66	49	10.59
35	56	13.75	259	36	12.69	134	45	10.98
132	40	12.90	96	78	11.13	132	40	10.45
212	52	12.77	93	23	10.87	323	40	10.12
96	78	12.10	35	56	10.66	35	56	9.18
134	45	12.00	12	98	10.24	259	36	6.94
93	23	11.87	132	40	9.72	206	53	6.04
131	41	10.56	133	60	9.30	127	27	5.63
12	98	8.88	206	53	6.79	33	56	5.25
133	60	6.18	127	27	6.52	12	98	5.18
127	27	5.70	33	56	5.07	260	59	2.96
206	53	5.62	131	41	3.27	5	27	0.59
33	56	5.07	260	59	2.96	131	41	0.34
260	59	4.24	5*	27	**	128	62	**
5	27	2.00	128	62	**	96	78	**
			Land in Class II					
265	41	23.22	265	41	23.22	265	41	31.80
31	35	17.06	28	43	19.19	7	41	19.98
7	41	12.51	31	35	13.43	28	43	19.65
32	40	12.05	37	68	11.63	4	133	17.77
4	133	10.87	7	41	9.34	31	35	16.20
37	68	9.68	4	133	9.10	214	56	8.48
1	382	6.71	214	56	8.52	1	382	7.71
214	56	6.46	24	51	8.43	32	40	7.40
28	43	4.95	32	40	7.88	37	68	7.10
24	51	3.24	1	382	6.87	24	51	3.24
295	22	**	295*	22	**	295*	22	**
			Land in Class III					
--	0	0.00	--	0	0.00	--	0	0.00

# Schedule numbers 60, 84, 91 and 130 of land in Class I, which are cash-rented farms, have not been included.

* Rented for the year specified.

** Data incomplete.

Farms Growing Mainly Deciduous Fruit (Excluding Figs) in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Labor Costs per Acre, 1931, 1930, and 1929[1]

1931						1930						1929					
Schedule no.	Acres	Labor costs per acre				Schedule no.	Acres	Labor costs per acre				Schedule no.	Acres	Labor costs per acre			
		Total	Hired	Family	Board			Total	Hired	Family	Board			Total	Hired	Family	Board
						Land in Class I											
116	124	$74.34	$68.05	$ 6.29	$0.00	116	85	$122.91	$110.06	$12.85	$0.00	10	48	$97.42	$29.17	$68.25	$0.00
153	40	70.38	55.75	14.62	0.00	113	19	89.05	31.58	57.47	0.00	113	19	91.68	34.21	57.47	0.00
113	19	70.00	28.95	41.05	0.00	10	48	83.87	15.62	68.25	0.00	83	30	76.97	4.17	72.80	0.00
128	62	65.81	53.23	12.58	0.00	83	30	82.80	10.00	72.80	0.00	116	85	76.67	63.82	12.85	0.00
10	48	64.38	15.62	48.75	0.00	125	20	70.50	25.00	45.50	0.00	153	40	74.97	54.50	20.47	0.00
83	30	62.00	10.00	52.00	0.00	153	40	64.59	44.12	20.47	0.00	258	37	67.86	23.59	44.27	0.00
125	20	52.50	20.00	32.50	0.00	134	45	64.29	19.80	44.49	0.00	125	30	61.75	16.25	45.50	0.00
258	37	48.92	17.30	31.62	0.00	258	37	64.00	19.73	44.27	0.00	136	65	60.40	10.00	50.40	0.00
323	40	47.75	25.00	22.75	0.00	209	19	59.32	13.68	43.11	2.53	3	34	56.97	24.85	32.12	0.00
3	34	45.00	22.06	22.94	0.00	136	65	58.86	8.46	50.40	0.00	93	23	56.47	9.00	47.47	0.00
209	19	43.84	10.53	30.79	2.53	154	39	56.92	10.26	46.66	0.00	209	19	55.53	10.53	43.11	1.89
136	65	43.54	7.54	36.00	0.00	323	40	56.85	25.00	31.85	0.00	127	27	53.93	0.00	53.93	0.00
96	78	42.72	32.72	10.00	0.00	206	53	55.56	3.77	51.51	0.28	212	52	52.65	21.15	31.50	0.00
212	52	42.69	20.19	22.50	0.00	212	52	55.54	24.04	31.50	0.00	134	45	52.62	8.13	44.49	0.00
95	49	42.04	21.43	13.27	7.35	93	23	55.38	7.91	47.47	0.00	206	53	52.36	0.57	51.51	0.28
133	60	42.00	33.33	8.67	0.00	127	27	53.93	0.00	53.93	0.00	154	39	51.79	5.13	46.66	0.00
134	45	41.82	10.04	31.78	0.00	3	34	51.97	19.85	32.12	0.00	66	49	49.12	23.16	22.29	3.67
2	80	41.61	41.61	0.00	0.00	2	80	49.42	49.42	0.00	0.00	95	39	46.67	14.10	23.34	9.23
35	56	41.61	23.04	18.57	0.00	95	49	48.38	22.45	18.58	7.35	2	80	45.48	45.48	0.00	0.00
93	23	41.09	5.74	33.91	1.43	96	78	47.23	33.23	14.00	0.00	8	40	37.92	10.62	27.30	0.00
154	39	39.74	6.41	33.33	0.00	132	40	46.63	12.50	34.13	0.00	133	60	37.14	25.00	12.14	0.00
206	53	39.34	2.55	36.74	0.00	133	60	45.47	33.33	12.14	0.00	35	56	36.71	10.71	26.00	0.00
127	27	38.52	0.00	38.52	0.00	66	49	44.02	18.06	22.29	3.67	132	40	35.38	1.25	34.13	0.00
66	49	37.65	18.06	15.92	3.67	35	56	43.86	17.86	26.00	0.00	129	130	34.79	17.99	16.80	0.00
8	40	29.50	10.00	19.50	0.00	8	40	37.80	10.50	27.30	0.00	11	48	34.68	6.25	28.43	0.00
132	40	29.38	5.00	24.38	0.00	11	48	37.80	9.37	28.43	0.00	131	41	33.70	7.07	26.63	0.00
11	48	28.65	8.33	20.31	0.00	131	41	34.68	8.05	26.63	0.00	323	40	31.85	0.00	31.85	0.00
129	130	28.36	16.36	12.00	0.00	129	130	34.53	17.73	16.80	0.00	259	36	30.56	30.56	0.00	0.00
259	36	27.94	27.94	0.00	0.00	259	36	30.97	30.97	0.00	0.00	33	56	28.43	8.93	19.50	0.00
131	41	27.56	8.54	19.02	0.00	33	56	28.43	8.93	19.50	0.00	5	27	20.89	20.89	0.00	0.00
5	27	24.96	24.96	0.00	0.00	12	98	22.98	11.84	11.14	0.00	260	59	18.51	0.00	18.51	0.00
33	56	22.86	8.93	13.93	0.00	260	59	18.51	0.00	18.51	0.00	12	98	17.40	6.26	11.14	0.00
260	59	13.22	0.00	13.22	0.00	128	62	**	**	**	**	128	62	**	**	**	**
12	98	11.80	3.84	7.96	0.00	5*	27	*	*	*	*	96	78	**	**	**	**
						Land in Class II											
31	35	52.89	15.74	37.14	0.00	31	35	80.60	26.89	52.00	1.71	31	35	65.11	13.11	52.00	0.00
28	43	47.91	11.63	36.28	0.00	214	56	64.95	45.45	19.50	0.00	7	41	57.71	0.00	57.71	0.00
214	56	42.71	28.79	13.93	0.00	28	43	64.74	13.95	50.79	0.00	32	40	54.60	0.00	54.60	0.00
32	40	42.50	3.50	39.00	0.00	7	41	63.20	5.49	57.71	0.00	28	43	50.79	0.00	50.79	0.00
7	41	41.83	0.61	41.22	0.00	32	40	59.10	4.50	54.60	0.00	214	56	50.21	30.71	19.50	0.00
265	41	37.76	18.73	19.02	0.00	265	41	46.39	19.76	26.63	0.00	265	41	37.61	10.98	26.63	0.00
37	68	31.03	15.00	13.38	0.00	4	133	38.49	37.12	1.37	0.00	37	68	27.85	9.12	18.73	0.00
4	133	28.03	27.05	0.98	0.00	37	68	33.73	15.00	18.73	0.00	1	382	22.25	22.25	0.00	0.00
24	51	22.00	19.43	2.55	0.00	1	382	22.25	22.25	0.00	0.00	24	51	20.24	16.67	3.57	0.00
1	382	21.75	21.75	0.00	0.00	24	51	20.20	16.63	3.57	0.00	295*	22	**	**	**	**
295	22	**	**	**	**	295*	22	**	**	**	**	4	133	**	**	**	**
						Land in Class III											
--	0	0.00	0.00	0.00	0.00	--	0	0.00	0.00	0.00	0.00	--	0	0.00	0.00	0.00	0.00

* Rented for the year specified.

** Data incomplete.

[1] Schedule numbers 60, 84, 91, and 130, Land in Class I, which are cash-rented farms, have not been included.

Table X

Farms Growing Mainly Deciduous Fruit (Excluding Figs) in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Costs A+B+C+D per Acre, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre
			Land in Class I					
125	20	$143.30	116	85	$176.13	113	19	$150.99
113	19	129.84	83	30	147.70	10	48	132.69
153	40	116.62	113	19	147.31	258	37	124.75
83	30	114.80	125	20	144.60	83	30	122.97
116	124	110.40	153	40	126.12	153	40	121.75
258	37	107.54	10	48	123.25	125	20	121.30
3	34	103.02	258	37	120.40	2	80	120.80
10	48	102.83	209	19	116.95	116	85	118.67
209	19	102.74	3	34	106.00	3	34	112.38
128	62	97.31	2	80	103.82	209	19	108.42
11	48	97.10	136	65	97.97	136	65	104.20
2	80	94.98	323	40	96.08	95	39	93.46
136	65	87.09	154	39	93.81	154	39	88.45
323	40	84.90	212	52	92.90	212	52	86.02
154	39	79.58	134	45	92.00	93	23	81.17
212	52	78.15	11	48	89.93	11	48	80.70
35	56	72.96	95	49	85.45	206	53	72.04
95	49	72.65	127	27	79.52	134	45	71.53
96	78	71.13	206	53	75.98	127	27	70.30
66	49	69.73	93	23	74.73	129	130	69.19
259	36	67.03	96	78	74.57	66	49	69.06
127	27	63.96	35	56	72.66	8	40	67.35
134	45	63.91	132	40	70.80	323	40	67.32
93	23	62.61	133	60	69.19	133	60	66.57
133	60	62.48	66	49	69.04	35	56	64.05
129	130	62.33	8	40	67.50	132	40	63.30
132	40	59.87	259	36	66.97	259	36	60.78
8	40	59.65	129	130	66.32	5	27	51.15
206	53	58.72	131	41	47.63	33	56	44.64
5	27	56.44	33	56	46.05	131	41	43.48
131	41	49.97	12	98	39.94	260	59	35.80
33	56	40.50	260	59	35.68	12	98	28.99
260	59	31.27	60*	29	16.38	60*	29	17.03
12	98	28.41	84*	19	16.26	84*	19	16.10
60*	29	16.31	130*	49	12.41	130*	49	12.35
84*	19	16.26	91*	79	9.06	91*	79	7.31
130*	49	12.41	5*	27	3.08	128	62	**
91*	79	11.35	128	62	**	96	78	**
			Land in Class II					
31	35	81.57	31	35	105.63	7	41	91.39
265	41	80.66	265	41	101.73	31	35	89.72
295	22	70.64	28	43	96.37	265	41	83.41
7	41	68.37	214	56	89.84	28	43	82.91
28	43	67.47	7	41	86.56	32	40	74.55
32	40	67.20	32	40	79.92	214	56	73.87
214	56	66.00	4	133	72.25	4	133	73.15
4	133	63.14	37	68	65.67	37	68	54.86
37	68	61.07	24	51	42.63	1	382	42.33
1	382	46.58	1	382	41.61	24	51	28.90
24	51	38.92	295*	22	6.82	295*	22	**
			Land in Class III					
--	0	0.00	--	0	0.00	--	0	0.00

* Rented farms.

** Data incomplete.

Table XI

Farms Growing Mainly Deciduous Fruit (Excluding Figs) in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Net Return per Acre Over Costs A+B, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A+B	Schedule number	Acres	Net return per acre over costs A+B	Schedule number	Acres	Net return per acre over costs A+B
Land in Class I								
3	34	$32.32	125	20	$125.90	10	48	$127.65
153	40	20.32	116	85	81.31	153	40	78.58
5	27	19.00	258	37	27.94	3	34	47.02
125	20	18.90	3	34	30.34	116	85	37.82
259	36	18.00	60*	29	24.14	133	60	37.23
33	56	15.28	96	78	23.89	35	56	36.84
323	40	12.88	259	36	19.58	212	52	32.69
96	78	8.93	33	56	17.04	11	48	30.75
91*	79	8.86	8	40	15.42	2	80	28.26
116	124	7.36	91*	79	15.19	60*	29	24.14
60*	29	6.38	35	56	15.03	84*	19	21.05
212	52	5.02	212	52	13.80	134	45	15.11
35	56	2.68	260	59	12.41	95	39	13.64
131	41	2.61	133	60	7.18	91*	79	12.66
130*	49	1.94	153	40	6.15	129	130	12.25
128	62	1.61	132	40	4.90	33	56	11.50
84*	19	1.42	83	30	4.23	130*	49	7.37
260	59	1.18	130*	49	2.41	12	98	7.15
2	80	0.00	323	40	0.08	8	40	4.32
134	45	-0.95	2	80	-0.32	5	27	-3.70
8	40	-2.28	136	65	-5.67	259	36	-10.69
206	53	-2.39	12	98	-7.58	323	40	-11.68
93	23	-2.96	129	130	-8.63	136	65	-16.11
258	37	-7.27	84*	19	-13.16	154	39	-16.71
132	40	-7.66	11	48	-18.83	206	53	-20.87
12	98	-9.45	131	41	-19.42	132	40	-24.58
136	65	-16.97	93	23	-21.04	83	30	-34.46
129	130	-17.71	206	53	-22.79	258	37	-40.60
83	30	-18.46	154	39	-23.59	209	19	-44.37
133	60	-20.33	134	45	-26.94	93	23	-44.60
66	49	-22.73	95	49	-30.23	66	49	-48.09
11	48	-25.09	10	48	-41.62	127	27	-53.45
10	48	-26.04	66	49	-47.01	125	20	-62.20
154	39	-29.47	209	19	-52.64	113	19	-83.58
127	27	-36.07	127	27	-54.89	131	41	**
209	19	-40.95	113	19	-82.42	96	78	**
95	49	-46.19	5*	27	**	260	59	**
113	19	-62.69	128	62	**	128	62	**
Land in Class II								
37	68	10.42	295*	22	49.05	1	382	17.16
265	41	2.75	37	68	17.89	37	68	13.49
24	51	-6.18	4	133	10.30	4	133	9.08
1	382	-7.58	24	51	0.57	24	51	-23.47
28	43	-10.21	265	41	-4.25	32	40	-31.90
32	40	-19.40	1	382	-10.87	214	56	-35.46
4	133	-21.37	214	56	-11.23	7	41	-45.57
214	56	-23.39	32	40	-23.18	28	43	-57.14
295	22	-26.05	7	41	-36.13	31	35	-60.03
7	41	-35.46	28	43	-50.42	265	41	-65.75
31	35	-39.48	31	35	-59.32	295*	22	**
Land in Class III								
--	0	0.00	--	0	0.00	--	0	0.00

* Rented farms.

** Data incomplete.

Table XII

Farms Growing Mainly Deciduous Fruit (Excluding Figs) in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Net Return per Acre Over Costs A+B+C+D, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D
			Land in Class I					
153	40	$ 5.38	125	20	$103.50	10	48	$107.71
3	34	2.80	116	85	58.43	153	40	64.00
33	56	2.71	60*	29	7.76	133	60	23.00
91*	79	-2.49	96	78	7.68	35	56	18.68
125	20	-5.05	91*	79	6.13	3	34	17.38
259	36	-5.17	33	56	4.49	116	85	14.07
96	78	-7.37	3	34	0.76	2	80	12.65
323	40	-8.72	258	37	-0.08	212	52	10.81
116	124	-9.05	8	40	-1.13	134	45	7.18
131	41	-9.24	260	59	-1.79	91*	79	5.35
60*	29	-9.41	35	56	-3.11	84*	19	4.95
130*	49	-9.76	259	36	-3.72	60*	29	4.11
5	27	-10.48	133	60	-7.24	11	48	4.09
134	45	-11.04	212	52	-8.73	12	98	0.74
93	23	-12.61	130*	49	-9.49	33	56	0.54
260	59	-12.63	132	40	-9.55	130*	49	-4.53
84*	19	-14.53	153	40	-10.37	129	130	-4.77
35	56	-14.92	12	98	-14.30	95	39	-5.25
8	40	-15.80	84*	19	-16.26	8	40	-12.35
206	53	-16.15	323	40	-18.20	154	39	-30.78
12	98	-17.19	2	80	-19.04	5	27	-33.37
212	52	-17.67	136	65	-23.72	259	36	-33.97
2	80	-18.56	129	130	-27.24	136	65	-34.34
132	40	-25.25	131	41	-29.10	206	53	-34.51
133	60	-34.63	93	23	-29.51	323	40	-37.02
66	49	-34.81	83	30	-30.97	132	40	-42.05
136	65	-35.30	134	45	-34.76	93	23	-53.04
258	37	-35.59	206	53	-36.41	66	49	-57.43
129	130	-38.18	154	39	-40.30	127	27	-64.19
154	39	-47.02	95	49	-45.72	83	30	-65.00
10	48	-49.35	11	48	-49.31	258	37	-68.89
83	30	-53.83	66	49	-58.84	209	19	-71.79
127	27	-55.81	10	48	-65.10	125	20	-83.80
11	48	-56.48	127	27	-73.96	113	19	-109.99
95	49	-61.53	209	19	-80.48	131	41	**
209	19	-69.05	113	19	-109.63	260	59	**
113	19	-89.42	5*	27	**	96	78	**
128	62	**	128	62	**	128	62	**
			Land in Class II					
37	68	-9.94	295*	22	42.23	1	382	4.79
265	41	-16.93	37	68	-2.42	37	68	-6.42
24	51	-19.86	24	51	-13.43	4	133	-12.25
28	43	-24.82	4	133	-14.36	24	51	-28.90
1	382	-25.70	1	382	-23.36	32	40	-44.45
32	40	-32.05	265	41	-24.17	214	56	-50.64
295	22	-32.64	214	56	-27.61	7	41	-59.27
214	56	-40.21	32	40	-36.12	28	43	-69.61
4	133	-45.61	7	41	-50.15	31	35	-71.43
7	41	-49.49	28	43	-62.86	265	41	-79.75
31	35	-51.11	31	35	-70.92	295*	22	**
			Land in Class III					
--	0	0.00	--	0	0.00	--	0	0.00

* Rented farms.

** Data incomplete.

Table XIII

Fig Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Gross Income per Acre for 1931, 1930, and 1929*

1931			1930			1929		
Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre
			Land in Class I					
325	18	$213.33	325	18	$184.17	325	18	$191.67
14	20	109.75	14	20	132.25	61	50	161.32
25	148	57.78	61	50	124.00	14	20	132.75
23	45	41.44	18	19	103.05	16	20	107.55
61	50	34.20	16	20	97.30	18	19	94.74
21	58	31.53	23	45	44.11	25	148	77.72
22	39	30.13	22	39	43.21	22	39	46.15
135	41	24.07	25	148	42.40	23	45	44.89
63	53	23.51	21	58	32.90	21	58	25.62
17	58	22.78	63	53	26.70	135	41	17.63
16	20	22.65	135	41	15.68	63	53	15.32
18	19	7.11	17	58	4.22	17	58	8.26
			Land in Class II					
20	49	60.61	19	30	88.33	19	30	108.33
19	30	58.33	223	281	63.46	223	281	96.44
223	281	46.02	310	61	43.85	310	61	74.90
310	61	33.26	312	159	26.20	15	20	20.00
15	20	25.30	15	20	23.25	312	159	**
312	159	11.98	20	49	22.45	20	49	**
			Land in Class III					
--	0	0.00	--	0	0.00	--	0	0.00

* Schedule numbers 285, 62, and 289 which are cash-rented farms have not been included.

** Data incomplete.

Table XIV

Fig Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Cash Costs per Acre, Other Than Labor and Taxes, for 1931, 1930, and 1929*

1931			1930			1929		
Schedule number	Acres	Cash costs other than labor and taxes	Schedule number	Acres	Cash costs other than labor and taxes	Schedule number	Acres	Cash costs other than labor and taxes
			Land in Class I					
14	20	$38.65	61	50	$36.32	14	20	$41.45
61	50	21.46	14	20	29.25	61	50	31.70
16	20	10.10	25	148	15.36	18	19	10.32
23	45	8.51	16	20	11.45	22	39	10.26
22	39	7.85	18	19	10.32	16	20	10.10
18	19	7.68	22	39	10.26	25	148	9.47
25	148	5.97	21	58	9.14	21	58	7.41
17	58	3.00	23	45	4.40	23	45	4.38
21	58	2.07	135	41	3.90	135	41	2.46
135	41	1.90	325	18	3.44	17	58	1.81
325	18	0.50	17	58	1.86	325	18	0.50
63	53	0.00	63	53	0.00	63	53	0.00
			Land in Class II					
15	20	27.85	310	61	33.69	15	20	41.90
19	30	18.77	15	20	27.85	310	61	36.51
310	61	14.92	312	159	19.90	19	30	16.77
312	159	10.97	19	30	16.60	223	281	7.16
223	281	9.43	223	281	9.11	20	49	1.43
20	49	2.41	20	49	1.43	312	159	**
			Land in Class III					
--	0	0.00	--	0	0.00	--	0	0.00

* Schedule numbers 285, 62 and 289, which are cash-rented farms, have not been included in this table.

** Data incomplete.

Table XV

Fig Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Labor Costs per Acre for 1931, 1930, and 1929*

1931						1930						1929					
Schedule no.	Acres	Labor costs per acre				Schedule no.	Acres	Labor costs per acre				Schedule no.	Acres	Labor costs per acre			
		Total	Hired	Family	Board			Total	Hired	Family	Board			Total	Hired	Family	Board
Land in Class I																	
325	18	$71.17	$58.50	$12.67	0.00	61	50	$143.74	$143.74	0.00	0.00	61	50	$110.96	110.96	0.00	0.00
61	50	59.14	59.14	0.00	0.00	18	19	141.52	127.16	14.36	0.00	18	19	73.71	59.21	14.50	0.00
22	39	45.31	8.64	36.67	0.00	16	20	84.16	16.40	40.95	0.00	325	18	67.18	49.21	17.74	0.00
23	45	41.33	6.67	34.67	0.00	325	18	72.46	54.72	17.74	0.00	22	39	56.00	0.00	56.00	0.00
25	148	34.24	34.24	0.00	0.00	22	39	56.00	0.00	56.00	0.00	23	45	54.65	6.11	48.54	0.00
18	19	31.32	21.05	10.26	0.00	23	45	54.65	6.11	48.54	0.00	16	20	51.40	10.45	40.95	0.00
16	20	30.10	.85	29.25	0.00	14	20	32.22	21.30	10.92	0.00	25	148	36.20	36.20	0.00	0.00
17	58	27.47	8.41	19.05	0.00	25	148	31.22	31.22	0.00	0.00	17	58	31.51	4.84	26.67	0.00
14	20	24.95	17.15	7.80	0.00	17	58	29.51	1.66	26.67	0.00	14	20	27.42	16.50	10.92	0.00
63	53	9.66	9.66	0.00	0.00	63	53	21.89	21.89	0.00	0.00	135	41	18.63	18.63	0.00	0.00
135	41	7.32	7.32	0.00	0.00	135	41	15.90	15.90	0.00	0.00	21	58	11.21	11.21	0.00	0.00
21	58	6.55	6.55	0.00	0.00	21	58	11.21	11.21	0.00	0.00	63	53	10.75	10.75	0.00	0.00
Land in Class II																	
15	20	66.00	48.25	8.75	9.00	15	20	70.75	49.50	12.25	9.00	19	30	62.17	16.67	45.50	0.00
19	30	47.50	15.00	32.50	0.00	19	30	62.17	16.67	45.50	0.00	15	20	61.25	49.00	12.25	0.00
223	281	45.42	45.42	0.00	0.00	223	281	37.90	37.90	0.00	0.00	223	281	51.91	51.91	0.00	0.00
20	49	27.63	11.71	15.92	0.00	20	49	32.09	9.80	22.29	0.00	310	61	25.26	25.26	0.00	0.00
310	61	12.93	12.93	0.00	0.00	310	61	27.82	27.82	0.00	0.00	20	49	20.41	20.41	0.00	0.00
312	159	8.54	8.54	0.00	0.00	312	159	24.46	24.46	0.00	0.00	312	159	**	**	**	**
Land in Class III																	
--	0	0.00	0.00	0.00	0.00	--	0	0.00	0.00	0.00	0.00	--	0	0.00	0.00	0.00	0.00

* Schedule numbers 285 of land in Class I, 62 of land in Class II, and 289 of land in Class III, which are cash-rented farms, have not been included in this table.

** Data incomplete.

Table XVI

Fig Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Costs A+B+C+D per Acre for the Years 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre
			Land in Class I					
14	20	$113.05	18	19	$190.78	18	19	$122.56
135	41	91.63	16	20	111.65	16	20	104.50
16	20	83.00	14	20	111.02	14	20	103.92
18	19	82.89	135	41	102.68	135	41	103.54
23	45	67.53	63	53	99.03	22	39	78.62
22	39	65.74	22	39	78.69	23	45	75.87
25	148	63.66	23	45	76.37	25	148	69.33
17	58	61.03	25	148	70.64	17	58	63.25
63	53	31.28	17	58	60.79	21	58	34.98
21	58	24.27	21	58	36.93	285*	30	20.79
285*	30	20.19	285*	30	21.16	63	53	15.07
325	18	**	325	18	**	325	18	**
61	50	**	61	50	**	61	50	**
			Land in Class II					
15	20	134.75	15	20	136.05	15	20	125.75
19	30	101.33	19	30	109.60	19	30	110.37
223	281	87.84	223	281	80.10	223	281	89.49
20	49	54.90	310	61	77.33	310	61	77.41
310	61	43.46	20	49	58.39	20	49	26.14
62*	29	28.59	312	159	53.43	62*	29	11.00
312	159	28.57	62*	29	24.24	312	159	**
			Land in Class III					
289*	18	8.11	289*	18	7.44	289*	18	8.00

* Rented farms.

** Data incomplete.

Table XVII

Fig Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Net Return per Acre Over Costs A-B for the Years 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A÷B	Schedule number	Acres	Net return per acre over costs A÷B	Schedule number	Acres	Net return per acre over costs A÷B
			Land in Class I					
325	18	$141.66	325	18	$108.27	325	18	$123.99
14	20	46.15	14	20	70.78	14	20	63.88
21	58	22.91	285*	30	28.80	16	20	46.05
25	148	17.92	16	20	28.50	25	148	32.04
135	41	14.85	21	58	12.56	61	50	18.66
285*	30	14.76	63	53	4.81	285*	30	11.13
63	53	13.85	135	41	-3.88	18	19	8.10
17	58	-7.69	25	148	-4.19	21	58	7.00
23	45	-8.40	23	45	-14.94	63	53	4.57
16	20	-17.55	22	39	-23.05	135	41	-3.47
22	39	-23.02	17	58	-25.97	23	45	-14.14
18	19	-31.89	18	19	-48.79	22	39	-20.11
61	50	-46.30	61	50	-56.06	17	58	-25.07
			Land in Class II					
20	49	30.57	223	281	16.45	223	281	37.37
62*	29	7.58	19	30	9.56	19	30	29.40
310	61	5.41	62*	29	-0.18	310	61	13.13
312	159	-7.53	20	49	-11.06	62*	29	-2.06
19	30	-7.94	310	61	-17.66	20	49	-37.76
223	281	-8.83	312	159	-18.16	15	20	-92.15
15	20	-68.55	15	20	-75.35	312	159	**
			Land in Class III					
289*	18	4.33	289*	18	9.78	289*	18	6.78

* Rented farms.

** Data incomplete.

Table XVIII

Fig Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Net Return per Acre Over Costs A+B+C+D for the years 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D
				Land in Class I				
325	18	$113.27	325	18	$ 78.82	325	18	$100.71
21	58	7.26	14	20	21.23	14	20	28.83
14	20	-3.30	285*	30	7.64	25	148	8.39
285*	30	-5.43	21	58	-4.03	16	20	3.05
25	148	-5.88	16	20	-14.35	63	53	0.25
63	53	-7.77	25	148	-28.24	285*	30	-9.60
23	45	-26.09	23	45	-32.20	21	58	-19.36
22	39	-35.61	22	39	-35.49	18	19	-27.78
17	58	-38.25	17	58	-56.57	23	45	-31.00
16	20	-60.35	63	53	-72.33	22	39	-32.47
135	41	-67.56	135	41	-87.00	17	58	-54.99
18	19	-75.78	18	19	-87.73	135	41	-85.99
61	50	**	61	50	**	61	50	**
				Land in Class II				
20	49	5.71	223	281	-16.64	223	281	6.95
310	61	-10.20	19	30	-21.27	19	30	-2.04
312	159	-16.59	62*	29	-23.21	310	61	-2.51
62*	29	-19.80	312	159	-27.23	62*	29	-11.00
223	281	-41.82	310	61	-33.48	20	49	-32.78
19	30	-43.00	20	49	-35.94	15	20	-105.75
15	20	-109.45	15	20	-112.80	312	159	**
				Land in Class III				
289*	18	-3.78	289*	18	2.34	289*	18	1.22

* Rented farms.

** Data incomplete.

Dairy Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Gross Income per Acre, 1931, 1930, and 1929[1]

1931			1930			1929		
Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre
Land in Class I								
118[2]	23	$110.57	118[2]	23	$165.26	171	39	$136.87
169	19	93.52	169	19	109.15	118[2]	23	122.74
171	39	69.15	226	57	90.81	169	19	111.21
226	57	56.28	105	181	63.91	30	41	84.29
249	29	48.65	171	39	63.71	226	57	59.84
236	38	47.89	234	61	56.34	65	34	51.49
234	61	45.98	30	41	55.49	176	77	49.39
105	181	43.44	236	38	47.36	271	39	48.07
238	38	41.99	271	39	47.33	105	181	47.62
195	67	38.10	9	58	40.01	9	58	43.22
30	41	36.51	65	34	39.88	238	38	39.05
65	34	30.67	238	38	38.36	234	61	37.61
9	58	29.27	195	67	34.20	195	67	36.53
271	39	28.23	176	77	27.35	187	42	34.86
313	51	26.27	313	51	26.76	313	51	27.39
172	20	21.50	98	79	26.35	236	38	26.31
187	42	19.31	267	59	24.31	227	39	25.28
98	79	17.29	172	20	24.00	98	79	25.15
227	39	14.69	227	39	21.02	267	59	23.46
267	59	14.51	249	29	20.51	172	20	19.00
176	77	13.87	187	42	20.02	97	60	15.83
97	60	10.38	97	60	16.11	188	20	0.00
188	20	7.00	188	20	5.35	249	29	**
Land in Class II								
53	20	61.95	46	59	72.96	228	39	153.12
38	23	50.00	53	20	72.25	46	59	87.38
46	59	45.08	38	23	62.78	38	23	78.30
137	39	37.76	54	24	57.12	53	20	69.75
182	24	37.50	228	39	52.30	137	39	41.53
74	44	33.18	182	24	51.37	29	78	40.89
235	38	33.13	232	84	49.05	106	24	40.75
48	85	31.76	235	38	47.32	235	38	40.26
54	24	30.79	106	24	44.96	54	24	39.16
232	84	29.39	137	39	39.66	232	84	38.99
29	78	27.82	74	44	37.68	43	66	36.56
233	93	26.87	233	93	36.11	233	93	34.24
228	39	26.58	266	40	29.90	94	80	33.23
144	49	23.28	43	66	29.21	45	107	32.65
266	40	22.65	165	54	26.55	274	368	28.95
248	97	22.63	248	97	26.01	80	39	27.56
274	368	21.62	144	49	25.81	225[2]	75	26.66
165	54	20.44	94	80	25.56	146	87	21.15
194	39	20.25	45	107	25.12	48	85	19.69
106	24	18.96	274	368	24.60	41	83	18.69
202	46	18.30	80	39	24.51	39	293	18.63
225	75	17.33	48	85	23.30	248	97	17.86
250	60	16.79	239	32	22.47	250	60	17.06
43	66	15.62	29	78	22.33	74	44	16.47
146	87	15.57	202	32	20.28	177	145	13.97
41	83	14.20	41	83	18.71	165	54	13.35
80	39	12.35	250	60	16.38	239	32	9.38
177	145	10.74	146	87	14.80	144	49	8.73
45	107	10.44	39	293	12.88	182	24	6.41
94	80	9.11	177	145	10.68	266	40	**
39	293	8.05	225	75	1.53	194	39	**
239*	*	*	194	39	**	202	**	**
Land in Class III								
40[2]	40	40.50	40[2]	40	47.05	40[2]	40	61.05
99	39	17.36	173	103	33.09	173	103	49.15
47	174	16.79	99	39	16.95	47	174	22.45
173	103	14.52	47	174	14.23	100	30	0.00
42	39	2.56	100	50	0.00	99	39	**
100	50	0.00	42	39	**	42	39	**

[1] Schedule numbers 231 and 302 of land in Class I, 44,224 and 229 of land in Class II, and 101 of land in Class III, which are cash-rented farms, have not been included.

[2] Income from work off the farm constituted a large part of the gross income of schedule numbers 118 and 40 for the three years and for schedule number 225 for 1929.

* Rented for the year specified.

** Data incomplete.

Dairy Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Cash Costs per Acre Other Than Labor and Taxes, 1931, 1930, and 1929[1]

1931			1930			1929		
Schedule number	Acres	Cash costs per acre other than labor and taxes	Schedule number	Acres	Cash costs per acre other than labor and taxes	Schedule number	Acres	Cash costs per acre other than labor and taxes
				Land in Class I				
169	19	$82.42	169	19	$58.84	169	19	$54.21
226	57	38.21	249	29	48.93	226	57	40.97
249	29	22.41	118	23	31.96	187	42	27.60
238	38	21.03	313	51	21.57	9	58	22.36
105	181	19.62	271	39	21.21	236	38	21.18
97	60	15.42	226	57	19.79	176	77	20.31
195	67	14.94	30	41	19.32	30	41	19.12
234	61	14.85	105	181	18.34	118	23	18.52
227	39	14.54	234	61	15.39	105	181	17.72
171	39	14.26	227	39	11.54	234	61	15.13
30	41	13.20	65	34	9.26	227	39	12.18
65	34	12.88	171	39	9.15	65	34	10.85
313	51	11.90	187	42	8.00	313	51	9.41
9	58	11.31	195	67	7.63	188	20	7.80
271	39	11.15	267	59	7.61	238	39	7.39
187	42	9.29	9	58	6.83	171	39	6.85
118	23	8.70	172	20	6.15	195	67	6.33
176	77	7.56	97	60	5.88	97	60	5.92
172	20	7.05	176	77	5.86	267	59	4.92
267	59	6.34	238	38	5.71	172	20	3.80
188	20	4.20	236	38	5.39	271	39	3.05
236	38	4.08	188	20	4.25	98	79	1.52
98	79	2.33	98	79	1.52	249	29	**
				Land in Class II				
38	23	43.52	38	23	41.22	182	24	62.92
194	39	37.64	46	59	27.20	228	39	32.31
137	39	28.41	137	39	25.41	137	39	23.18
29	78	23.36	182	24	21.50	38	23	20.48
226	40	20.55	144	49	19.94	46	59	19.73
54	24	19.29	239	32	18.16	144	49	17.04
46	59	19.05	266	40	17.88	239	32	9.69
182	24	18.96	235	38	14.76	54	24	9.67
106	24	16.92	106	24	13.25	41	83	8.36
202	40	16.15	74	44	12.30	146	87	8.24
144	49	13.71	228	39	10.59	233	93	8.23
53	20	12.80	41	83	10.33	53	20	8.10
228	39	11.54	233	93	9.30	106	24	7.08
48	85	10.81	177	145	8.23	177	145	7.04
235	38	10.55	53	20	8.15	250	60	6.57
233	93	9.73	54	24	7.00	74	44	6.48
177	145	9.56	250	60	6.40	232	84	6.19
74	44	8.70	165	54	6.37	43	66	5.80
165	54	8.20	29	78	5.18	165	54	5.41
232	84	7.26	232	84	4.94	39	293	5.25
41	83	7.07	45	107	4.88	29	78	5.21
250	60	7.02	146	87	4.06	45	107	4.86
94	80	5.66	48	85	4.06	235	38	4.37
43	66	5.61	39	293	4.00	274	368	4.27
45	107	5.23	202	32	3.94	48	85	3.89
225	75	4.63	274	368	3.87	225	75	3.00
274	368	4.33	94	80	3.72	94	80	2.80
146	87	2.91	43	66	3.11	80	39	0.90
39	293	2.84	225	75	2.44	248	97	0.71
80	39	1.79	248	97	2.10	194	39	**
248	97	1.38	80	39	0.90	266	40	**
239*	32	**	194	39	**	202	40	**
				Land in Class III				
40	40	11.00	40	40	9.88	40	40	81.60
47	174	9.55	173	103	9.06	47	174	12.22
99	39	8.46	99	39	7.28	173	103	3.31
173	103	2.46	47	174	5.50	100	30	0.00
42	39	0.00	100	50	0.00	42	39	**
100	50	0.00	42	39	**	99	39	**

[1] Schedule numbers 231 and 302 of land in Class I, 229, 224, and 44 of land in Class II, and 101 of land in Class III, which are cash-rented farms, have not been included.

* Rented for the year specified.

** Data incomplete.

Dairy Farms in the Merced Irrigation District on the Three Classes of Land in Order of Labor Costs per Acre, 1931, 1930, and 1929 1/

1931						1930						1929					
Schedule no.	Acres	Labor costs per acre				Schedule no.	Acres	Labor costs per acre				Schedule no.	Acres	Labor costs per acre			
		Total	Hired	Family	Board			Total	Hired	Family	Board			Total	Hired	Family	Board
						Land in Class I											
172	20	$87.75	$3.25	$84.50	$0.00	249	29	$96.73	$2.59	$94.14	$0.00	172	20	$91.00	$0.00	$91.00	$0.00
249	29	69.83	2.59	67.24	0.00	172	20	91.00	0.00	91.00	0.00	271	39	88.66	0.00	88.66	0.00
271	39	63.33	0.00	63.33	0.00	271	39	88.66	0.00	88.66	0.00	238	38	71.85	0.00	71.85	0.00
238	38	51.58	0.26	51.32	0.00	238	38	72.11	0.26	71.85	0.00	169	19	58.52	1.05	57.47	0.00
169	19	44.95	3.89	41.05	0.00	169	19	68.00	10.53	57.47	0.00	188	20	56.90	1.20	54.60	1.10
188	20	40.75	1.00	39.00	0.75	188	20	56.85	1.50	54.60	0.75	234	61	54.69	23.36	31.33	0.00
234	61	40.00	17.62	22.38	0.00	234	61	54.69	23.36	31.33	0.00	97	60	54.60	0.00	54.60	0.00
97	60	39.00	0.00	39.00	0.00	97	60	54.60	0.00	54.60	0.00	171	39	50.71	18.05	32.66	0.00
195	67	33.75	3.51	30.24	0.00	195	67	48.12	5.78	42.34	0.00	195	67	48.47	6.13	42.34	0.00
30	41	33.05	23.54	9.51	0.00	171	39	47.97	15.31	32.66	0.00	267	59	46.27	0.00	46.27	0.00
267	59	33.05	0.00	33.05	0.00	267	59	46.27	0.00	46.27	0.00	226	57	44.77	22.46	19.15	3.16
171	39	31.69	8.36	23.33	0.00	65	34	40.15	0.00	40.15	0.00	30	41	42.58	29.27	13.31	0.00
65	34	28.68	0.00	28.68	0.00	30	41	38.80	22.56	13.31	2.93	65	34	40.15	0.00	40.15	0.00
176	77	25.62	15.49	10.13	0.00	226	57	32.66	11.93	19.15	1.58	176	77	33.96	19.78	14.18	0.00
227	39	23.85	3.85	20.00	0.00	176	77	32.09	17.91	14.18	0.00	227	39	31.85	3.85	28.00	0.00
105	181	20.22	5.41	12.93	1.88	227	39	31.85	3.85	28.00	0.00	9	58	27.87	2.41	25.10	0.36
9	58	19.71	1.67	17.93	0.10	9	58	28.01	2.62	25.10	0.29	187	42	26.71	0.71	26.00	0.00
187	42	19.26	0.69	18.57	0.00	105	181	27.21	6.63	18.10	2.48	105	181	23.96	3.87	18.10	1.99
226	57	16.84	3.16	13.68	0.00	187	42	26.81	0.81	26.00	0.00	118	23	23.74	0.00	23.74	0.00
313	51	15.43	15.43	0.00	0.00	118	23	23.74	0.00	23.74	0.00	236	38	15.79	15.79	0.00	0.00
118	23	11.30	0.00	11.30	0.00	313	51	23.51	23.51	0.00	0.00	313	51	6.96	6.96	0.00	0.00
236	38	10.53	10.53	0.00	0.00	236	38	18.42	18.42	0.00	0.00	98	79	0.00	0.00	0.00	0.00
98	79	0.00	0.00	0.00	0.00	98	79	0.00	0.00	0.00	0.00	249	29	**	**	**	**
						Land in Class II											
106	24	65.00	0.00	65.00	0.00	106	24	91.00	0.00	91.00	0.00	106	24	91.00	0.00	91.00	0.00
266	40	54.00	9.00	39.00	6.00	266	40	69.60	9.00	54.60	6.00	54	24	68.67	0.42	68.25	0.00
54	24	49.38	0.62	48.75	0.00	54	24	68.67	0.42	68.25	0.00	38	23	63.31	0.00	63.31	0.00
38	23	47.39	2.17	45.22	0.00	38	23	66.56	3.26	63.30	0.00	53	20	54.60	0.00	54.60	0.00
53	20	39.00	0.00	39.00	0.00	53	20	54.60	0.00	54.60	0.00	146	87	50.20	0.00	50.20	0.00
146	87	35.86	0.00	35.86	0.00	146	87	50.20	0.00	50.20	0.00	74	44	49.63	0.00	49.63	0.00
74	44	35.45	0.00	35.45	0.00	74	44	49.63	0.00	49.63	0.00	182	24	45.50	0.00	45.50	0.00
182	24	32.50	0.00	32.50	0.00	182	24	45.50	0.00	45.50	0.00	137	39	37.11	1.03	36.08	0.00
46	59	29.75	2.54	26.44	0.76	228	39	38.77	10.77	28.00	0.00	233	93	36.04	16.05	19.99	0.00
233	93	27.18	13.90	14.28	0.00	137	39	37.11	1.03	36.08	0.00	29	78	35.76	1.92	33.84	0.00
137	39	26.79	1.03	25.77	0.00	233	93	36.04	16.05	19.99	0.00	48	85	34.89	0.45	34.26	0.18
228	39	26.41	6.41	20.00	0.00	29	78	35.76	1.92	33.84	0.00	228	39	34.92	6.92	28.00	0.00
29	78	26.09	1.92	24.17	0.00	48	85	34.89	0.45	34.26	0.18	239	32	34.13	0.00	34.13	0.00
232	84	24.88	8.99	11.61	4.29	43	66	34.46	1.36	33.10	0.00	43	66	33.10	0.00	33.10	0.00
48	85	24.88	0.27	24.47	0.14	202	32	34.13	0.00	34.13	0.00	94	80	31.93	1.25	27.30	3.38
43	66	23.64	0.00	23.64	0.00	239	32	34.13	0.00	34.13	0.00	232	84	31.85	11.31	16.25	4.29
94	80	20.75	1.25	19.50	0.00	94	80	31.93	1.25	27.30	3.38	235	38	28.74	0.00	28.74	0.00
235	38	20.53	0.00	20.53	0.00	232	84	31.85	11.31	16.25	4.29	80	39	28.00	0.00	28.00	0.00
80	39	20.00	0.00	20.00	0.00	235	38	28.74	0.00	28.74	0.00	46	59	26.65	6.78	18.51	1.36
194	39	20.00	0.00	20.00	0.00	80	39	28.00	0.00	28.00	0.00	248	97	26.22	0.00	22.51	3.71
248	97	19.79	0.00	16.08	3.71	248	97	26.22	0.00	22.51	3.71	45	107	24.28	0.47	23.81	0.00
274	368	19.02	19.02	0.00	0.00	46	59	25.20	5.42	18.51	1.27	144	49	23.72	0.82	22.29	0.61
144	49	18.16	1.63	15.92	0.61	144	49	24.43	1.53	22.29	0.61	165	54	20.22	0.00	20.22	0.00
202	46	17.39	0.43	16.96	0.00	45	107	24.28	0.47	23.81	0.00	274	368	19.02	19.02	0.00	0.00
45	107	17.01	0.00	17.01	0.00	165	54	20.41	0.19	20.22	0.00	41	83	18.58	5.42	13.16	0.00
165	54	14.63	0.19	14.44	0.00	274	368	19.02	19.02	0.00	0.00	177	145	17.75	4.30	11.30	2.15
41	83	13.01	3.61	9.40	0.00	41	83	17.98	4.82	13.16	0.00	225	75	15.33	15.33	0.00	0.00
225	75	11.73	1.33	10.40	0.00	225	75	16.16	1.60	14.56	0.00	39	293	11.25	0.06	11.19	0.00
39	293	8.05	0.06	7.99	0.00	39	293	11.62	0.43	11.19	0.00	250	60	4.17	4.17	0.00	0.00
177	145	5.90	1.24	4.03	0.62	177	145	8.87	2.15	5.64	1.08	202	32	**	**	**	**
250	60	**	**	**	**	250	60	3.33	3.33	0.00	0.00	266	40	**	**	**	**
239*	32	*	*	*	*	194	39	**	**	**	**	194	39	**	**	**	**
						Land in Class III											
99	39	28.33	0.00	28.33	0.00	99	39	39.66	0.00	39.66	0.00	173	103	31.81	0.00	31.81	0.00
173	103	22.72	0.00	22.72	0.00	173	103	31.81	0.00	31.81	0.00	40	40	28.80	1.50	27.30	0.00
40	40	20.50	1.00	19.50	0.00	40	40	28.30	1.00	27.30	0.00	47	174	12.17	2.76	9.41	0.00
47	174	11.32	4.60	6.72	0.00	47	174	14.01	4.60	9.41	0.00	100	30	0	0.00	0	0.00
42	39	4.62	4.62	0.00	0.00	100	50	0.00	0.00	0.00	0.00	99	39	**	**	**	**
100	50	0.00	0.00	0.00	0.00	42	39	**	**	**	**	42	39	**	**	**	**

* Rented for the year specified.

** Data incomplete.

1/ Schedule numbers 231 and 302, Land in Class I, 229,224, and 44, Land in Class II, and 101, Land in Class III, which are cash-rented farms, have not been included.

Dairy Farms in the Merced Irrigation District on the Three Classes of Land

Arranged in Order of Costs A+B+C+D per Acre, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre
			Land in Class I					
169	19	$146.78	249	29	$160.90	169	19	$127.15
172	20	119.45	169	19	141.78	97	60	119.84
249	29	108.13	172	20	121.90	172	20	118.35
271	39	94.05	271	39	121.40	234	61	104.08
238	38	87.68	234	61	99.08	271	39	103.07
234	61	84.51	238	38	92.79	226	57	99.10
97	60	75.98	30	41	80.12	238	38	92.95
226	57	70.25	97	60	79.14	187	42	91.67
30	41	68.20	118	23	74.48	30	41	78.97
195	67	66.07	171	39	73.43	188	20	75.50
171	39	61.92	195	67	72.81	171	39	73.76
65	34	57.17	188	20	71.70	195	67	70.77
227	39	55.71	65	34	67.29	65	34	66.99
105	181	55.34	226	57	66.35	176	77	65.64
188	20	54.70	267	59	65.03	9	58	63.10
267	59	50.49	105	181	61.62	267	59	62.32
176	77	46.10	187	42	60.62	118	23	60.13
9	58	45.12	227	39	60.00	227	39	59.69
187	42	43.07	9	58	49.63	105	181	55.40
118	23	37.61	176	77	49.37	236	38	53.97
236	38	31.94	313	51	47.02	313	51	18.22
313	51	29.55	236	38	40.60	302*	32	15.94
302*	32	15.84	302*	32	16.06	98	79	10.55
98	79	11.05	98	79	10.55	231*	42	5.93
231*	42	6.17	231*	42	6.76	249	29	**
			Land in Class II					
38	23	105.04	38	23	126.43	182	24	130.16
266	40	96.90	137	39	117.84	106	24	108.20
106	24	93.41	106	24	116.04	38	23	102.17
54	24	83.87	266	40	108.85	54	24	90.20
53	20	73.35	54	24	92.66	53	20	84.30
182	24	73.20	182	24	89.54	137	39	76.97
137	39	70.74	53	20	84.70	228	39	76.56
194	39	62.97	74	44	74.45	144	49	76.20
46	59	61.38	46	59	65.08	146	87	68.04
74	44	55.59	239	32	64.09	74	44	66.15
29	78	54.74	146	87	63.62	46	59	58.69
228	39	48.94	80	39	61.76	239	32	56.87
48	85	48.04	228	39	58.69	29	78	52.49
146	87	47.99	144	49	57.24	48	85	50.50
144	49	45.65	235	38	55.16	232	84	48.93
233	93	44.59	29	78	52.60	233	93	48.49
235	38	42.68	48	85	51.86	43	66	48.11
232	84	42.10	233	93	51.44	235	38	43.34
202	46	40.17	232	84	47.84	94	80	40.41
43	66	39.56	43	66	46.80	45	107	38.90
165	54	34.94	202	32	42.59	80	39	38.30
94	80	33.00	94	80	41.26	165	54	38.09
274	368	31.77	165	54	39.39	41	83	34.50
80	39	30.74	45	107	38.89	177	145	33.44
45	107	30.54	41	83	34.85	248	97	32.59
248	97	26.88	248	97	34.00	274	368	31.69
225	75	26.38	274	368	31.12	225	75	25.50
41	83	26.31	225	75	27.99	250	60	22.14
177	145	24.37	177	145	26.07	39	293	20.71
239*	32	22.16	250	60	21.31	229*	39	16.82
224*	38	18.94	39	293	20.37	224*	38	13.49
250	60	18.33	224*	38	17.07	44*	42	13.30
39	293	16.00	229*	39	16.36	266	40	**
229*	39	15.28	44*	42	8.73	194	39	**
44*	42	8.21	194	39	**	202	32	**
			Land in Class III					
99	39	39.36	99	39	49.41	40	40	118.30
40	40	39.22	173	103	48.94	173	103	41.20
173	103	33.22	40	40	46.12	47	174	31.72
47	174	28.68	47	174	31.37	100	30	2.23
42	39	5.72	100	50	1.82	99	39	**
101*	30	3.80	42	39	**	42	39	**
100	50	1.90	101*	30	**	101*	30	**

* Rented farms.

** Data incomplete.

Dairy Farms in the Merced Irrigation District on the Three Classes of Land

in Order of Net Return per Acre over Costs A + B, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A + B	Schedule number	Acres	Net return per acre over costs A + B	Schedule number	Acres	Net return per acre over costs A + B
Land in Class I								
118 1/	23	$90.57	118 1/	23	$109.57	118 1/	23	$80.48
236	38	33.29	226	57	38.36	171	39	79.31
171	39	23.20	302*	32	27.22	302*	32	27.25
302*	32	18.50	98	79	24.83	98	79	23.63
98	79	14.96	236	38	23.55	30	41	22.59
231*	42	13.21	105	181	18.36	231*	42	13.21
105	181	3.59	231*	42	13.21	313	51	11.02
9	58	1.75	171	39	6.59	105	181	5.95
226	57	1.23	9	58	5.17	65	34	0.50
313	51	-1.06	30	41	-2.63	169	19	-1.53
234	61	-8.87	65	34	-9.49	176	77	-4.88
187	42	-9.24	176	77	-10.60	9	58	-7.02
30	41	-9.73	234	61	-13.74	236	38	-10.66
195	67	-10.59	187	42	-14.79	195	67	-18.27
65	34	-10.88	169	19	-17.69	227	39	-18.74
176	77	-19.31	313	51	-18.32	187	42	-19.45
227	39	-23.69	195	67	-21.54	226	57	-25.89
267	59	-24.88	227	39	-22.36	267	59	-27.73
238	38	-30.62	267	59	-29.57	234	61	-32.21
169	19	-33.85	238	38	-39.46	238	38	-40.19
188	20	-37.95	97	60	-44.37	271	39	-43.64
249	29	-43.59	188	20	-55.75	97	60	-44.69
97	60	-44.04	271	39	-62.54	188	20	-64.70
271	39	-46.26	172	20	-73.15	172	20	-75.95
172	20	-73.30	249	29	-125.15	249	29	**
Land in Class II								
229*	39	27.39	229*	39	29.95	228	39	85.89
44*	42	12.60	46	59	20.56	182	24	76.01
53	20	10.15	44*	42	12.60	46	59	41.01
250	60	9.37	232	84	12.27	224*	38	15.55
48	85	3.94	53	20	9.50	225 1/	75	8.33
224*	38	2.13	250	60	6.65	44*	42	7.81
235	38	2.05	224*	38	3.97	235	38	7.16
248	97	1.46	235	38	3.82	53	20	7.05
225	75	-0.97	228	39	2.94	250	60	6.33
239*	32	-1.25	274	368	1.71	274	368	5.66
274	368	-1.73	165	54	-0.23	45	107	3.51
165	54	-2.39	248	97	-2.31	39	293	2.14
232	84	-2.79	39	293	-2.74	232	84	0.96
39	293	-2.84	45	107	-4.04	29	78	-0.08
46	59	-3.71	80	39	-4.39	80	39	-1.34
177	145	-4.72	177	145	-6.43	94	80	-1.49
41	83	-5.88	233	93	-7.23	43	66	-2.34
144	49	-8.60	43	66	-8.36	38	23	-5.49
233	93	-9.04	41	83	-9.59	233	93	-8.03
80	39	-9.44	94	80	-10.09	41	83	-8.25
74	44	-10.98	182	24	-15.63	248	97	-9.07
228	39	-11.37	48	85	-15.64	177	145	-10.83
45	107	-11.80	225	75	-17.07	165	54	-12.28
43	66	-13.62	202	32	-17.78	137	39	-18.75
182	24	-13.96	54	24	-18.55	48	85	-19.09
202	46	-15.24	144	49	-18.56	144	49	-32.03
94	80	-17.30	29	78	-18.61	239	32	-34.43
137	39	-17.45	137	39	-22.86	146	87	-37.29
29	78	-21.63	74	44	-24.25	54	24	-39.17
146	87	-23.20	239	32	-29.81	74	44	-39.64
194	39	-37.39	146	87	-39.46	106	24	-57.33
54	24	-37.88	38	23	-45.01	229*	39	**
38	23	-40.91	266	40	-57.58	202	**	**
266	40	-51.90	106	24	-59.29	194	39	**
106	24	-62.96	194	39	**	266	40	**
Land in Class III								
40 1/	40	9.00	40 1/	40	8.87	173	103	14.03
101*	30	2.00	100	50	0.00	100	30	0.00
100	50	0.00	47	174	-5.28	47	174	-1.95
42	39	-2.06	173	103	-7.78	40 1/	40	-49.35
47	174	-4.08	99	39	-30.00	42	39	**
173	103	-10.65	42	39	**	99	39	**
99	39	-19.43	101*	30	**	101*	30	**

* Rented farms. ** Data incomplete.

1/ Income from work off farm constituted a large part of the gross income of schedule numbers 118 and 40 for the three years and for schedule number 225 for 1929.

Dairy Farms in the Merced Irrigation District on the Three Classes of Land Arranged

in Order of Net Return per Acre Over Costs A+B+C+D, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D
				Land in Class I				
118#	23	$72.96	118#	23	$90.78	171	39	$63.11
236	38	15.95	226	57	24.46	118#	23	62.61
171	39	7.23	98	79	15.80	98	79	14.60
231*	42	7.04	302*	32	11.16	302*	32	11.31
98	79	6.24	236	38	6.76	313	51	9.17
302*	32	2.66	231*	42	6.45	231*	42	7.28
313	51	-3.28	105	181	2.29	30	41	5.32
105	181	-11.90	9	58	-9.62	105	181	-7.78
226	57	-13.97	171	39	-9.72	65	34	-15.50
9	58	-15.85	313	51	-20.26	169	19	-15.94
187	42	-23.76	176	77	-22.02	176	77	-16.25
65	34	-26.50	30	41	-24.63	9	58	-19.88
195	67	-27.97	65	34	-27.41	236	38	-27.66
30	41	-31.69	169	19	-32.63	195	67	-34.24
176	77	-32.23	195	67	-38.61	227	39	-34.41
267	59	-35.98	227	39	-38.98	267	59	-38.86
234	61	-38.53	187	42	-40.60	226	57	-39.26
227	39	-41.02	267	59	-40.72	238	38	-53.90
238	38	-45.69	234	61	-42.74	271	39	-55.00
188	20	-47.70	238	38	-54.43	187	42	-56.81
169	19	-53.26	97	60	-63.03	234	61	-66.47
249	29	-59.48	188	20	-66.35	188	20	-75.50
97	60	-65.60	271	39	-74.07	172	20	-99.35
271	39	-65.82	172	20	-97.90	97	60	-104.01
172	20	-140.55	249	29	-141.39	249	29	**
				Land in Class II				
229*	39	12.93	229*	39	14.41	228	39	76.56
44*	42	6.08	46	59	7.88	46	59	28.69
250	60	-1.54	44*	42	5.56	224*	38	6.24
248	97	-4.25	232	84	1.21	225#	75	1.16
39	293	-7.95	250	60	-4.93	44*	42	0.99
225	75	-9.05	228	39	-6.39	39	293	-2.08
235	38	-9.55	274	368	-6.52	274	368	-2.74
274	368	-10.15	224*	38	-6.55	235	38	-3.08
224*	38	-11.05	39	293	-7.49	250	60	-5.08
53	20	-11.40	235	38	-7.84	45	107	-6.25
41	83	-12.11	248	97	-7.99	94	80	-7.18
232	84	-12.75	53	20	-12.45	232	84	-9.94
239*	32	-13.10	165	54	-12.84	80	39	-10.74
177	145	-13.63	45	107	-13.77	43	66	-11.55
165	54	-14.50	41	83	-15.14	29	78	-11.60
48	85	-16.28	233	93	-15.33	233	93	-14.25
46	59	-16.30	177	145	-15.39	53	20	-14.55
233	93	-17.72	94	80	-15.70	248	97	-14.73
80	39	-18.39	43	66	-17.59	41	83	-15.81
45	107	-20.10	202	32	-22.31	177	145	-19.47
202	46	-21.87	225	75	-26.46	38	23	-23.87
228	39	-22.36	48	85	-28.56	165	54	-24.74
144	49	-22.37	29	78	-30.27	48	85	-30.81
74	44	-22.41	144	49	-31.43	137	39	-35.44
94	80	-23.89	54	24	-35.54	146	87	-46.89
43	66	-23.94	74	44	-36.77	239	32	-47.49
29	78	-26.92	80	39	-37.25	74	44	-49.68
146	87	-32.42	182	24	-38.17	54	24	-51.04
137	39	-32.98	239	32	-41.62	106	24	-67.45
182	24	-35.70	146	87	-48.82	144	49	-67.47
194	39	-42.72	38	23	-63.65	182	24	-123.75
54	24	-53.08	106	24	-71.08	229*	39	**
38	23	-55.04	137	39	-78.18	202	32	**
266	40	-74.25	266	40	-78.95	194	39	**
106	24	-74.45	194	39	**	266	40	**
				Land in Class III				
40#	40	1.28	40#	40	0.93	173	103	7.95
101*	30	-1.80	100	50	-1.82	100	30	-2.23
100	50	-1.90	47	174	-12.95	47	174	-9.27
42	39	-3.16	173	103	-15.85	40#	40	-57.25
47	174	-11.89	99	39	-32.46	99	39	**
173	103	-18.70	42	39	**	42	39	**
99	39	-22.00	101*	30	**	101*	30	**

# Income from work off farm constituted a large part of the gross income of schedule numbers 118 and 40 for the three years and for schedule number 225 for 1929.

* Rented farms.

** Data incomplete.

Table XXV

Vineyards in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Gross Income per Acre, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre
			Land in Class I[1]					
220	20	$132.50	220	20	$165.00	86	20	$168.75
86	20	125.75	86	20	154.00	220	20	150.00
149	19	106.47	204	34	147.06	150	39	143.10
147	23	101.43	149	19	130.63	208	20	140.00
204	34	100.00	256	68	99.85	147	23	139.96
244	20	88.50	244	20	99.50	108	98	128.46
218	47	74.36	218	47	88.83	149	19	112.53
240	122	65.11	241	35	77.74	320	443	110.56
256	68	60.44	108	98	74.45	218	47	102.87
210	31	58.84	240	122	69.92	241	35	101.14
221	26	57.69	242	35	68.29	244	20	99.50
108	98	57.37	147	23	62.22	245	125	90.29
157	86	52.33	157	86	61.44	240	122	83.99
215	47	51.28	245	125	60.22	256	68	72.79
241	35	49.60	82	59	59.32	157	86	71.88
112	38	47.92	150	39	58.67	264	130	67.06
150	39	43.31	210	31	55.19	152	223	66.15
82	59	42.37	264	130	54.97	82	59	66.10
264	130	41.57	221	26	54.62	242	35	60.00
242	35	40.29	320	443	50.03	287	76	56.28
315	200	37.46	208	20	50.00	215	47	50.53
320	443	36.52	287	76	44.88	112	38	48.97
245	125	33.65	215	47	42.13	217	46	47.39
152	223	32.39	217	46	38.59	210	31	40.32
217	46	29.24	112	38	34.24	221	26	38.08
219	28	29.04	152	223	34.14	247	21	20.05
158	46	21.52	158	46	20.33	219	28	13.93
287	76	15.11	247	21	19.86	204	34	11.76
247	21	14.67	89	38	14.21	89	38	11.37
89	38	11.24	219	28	-6.10#	158	46	**
208	20	**	315	200	**	315	200	**
			Land in Class II[1]					
318	156	70.17	318	156	106.60	318	156	220.16
246	20	51.65	151	39	74.36	246	20	108.20
151	39	37.97	246	20	64.95	211	29	67.97
211	29	33.41	216	36	46.11	126	39	61.36
275	242	33.28	126	39	42.44	216	36	47.61
126	39	30.20	85	80	36.08	151	39	46.82
92	39	29.07	92	39	35.89	92	39	38.46
85	80	21.22	324	120	25.88	324	120	37.92
36	38	19.97	36	38	25.42	85	80	30.06
216	36	19.28	275	242	23.85	207	220	28.42
324	120	18.33	207	220	21.87	36	38	19.53
123	19	17.11	148	19	7.89	275	242	17.87
207	220	13.59	123	19	**	148	19	6.05
148	19	5.89	211*	29	**	123	19	**
			Land in Class III[1]					
222	20	12.00	222	20	16.50	222	20	9.50

[1] Schedule numbers 124, 297, 189, 213, 205 of land in Class I, 322 of land in Class II, and 87 of land in Class III, which are cash-rented farms, have not been included.

Minus income due to failure of returns of shipments to cover freight and handling charges.

* Rented for the year specified.

** Data incomplete.

Table XXVI

Vineyards in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Cash Costs per Acre Other Than Labor and Taxes, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Cash costs per acre other than labor and taxes	Schedule number	Acres	Cash costs per acre other than labor and taxes	Schedule number	Acres	Cash costs per acre other than labor and taxes
			Land in Class I[1]					
204	34	$80.47	204	34	$73.79	204	34	$68.82
149	19	42.42	210	31	38.42	240	122	35.20
210	31	42.10	240	122	33.48	320	443	29.94
221	26	33.35	149	19	31.89	244	20	28.65
320	443	28.59	320	443	30.55	149	19	28.53
218	47	28.06	218	47	29.09	210	31	27.84
240	122	26.50	244	20	29.00	218	47	27.57
244	20	25.90	241	35	23.94	241	35	25.49
147	23	24.83	245	125	23.66	112	38	22.26
241	35	24.57	112	38	19.21	245	125	21.25
245	125	17.73	242	35	19.03	220	20	18.35
256	68	17.07	220	20	18.35	108	98	17.69
242	35	16.89	264	130	16.72	264	130	17.31
220	20	16.35	147	23	14.65	242	35	16.20
157	86	13.44	157	86	14.31	157	86	15.08
215	47	12.77	86	20	12.00	215	47	12.45
264	130	12.66	256	68	11.91	82	59	12.03
112	38	11.87	215	47	11.51	221	26	8.77
108	98	10.90	108	98	10.72	256	68	8.21
82	59	10.54	82	59	10.71	147	23	7.17
219	28	9.75	150	39	7.15	152	223	6.22
86	20	7.25	152	223	6.24	217	46	4.91
315	200	6.89	217	46	5.41	86	20	4.50
89	38	6.42	219	28	4.75	150	39	4.44
150	39	4.59	89	38	2.95	219	28	2.96
217	46	4.52	208	20	2.05	247	21	2.67
152	223	3.84	247	21	1.00	89	38	2.53
158	46	1.70	221	26	0.69	208	20	2.20
247	21	1.00	158	46	0.00	158	46	**
208	20	**	315	200	**	315	200	**
287#	76	#	287#	76	#	287#	76	#
			Land in Class II[1]					
246	20	20.00	246	20	22.15	246	20	17.60
216	36	16.53	324	120	21.99	151	39	13.90
123	19	16.00	216	36	20.36	216	36	12.50
92	39	13.67	151	39	12.62	324	120	9.92
151	39	10.18	92	39	10.38	92	39	8.92
207	220	6.65	207	220	8.30	207	220	8.61
324	120	6.18	85	80	7.49	126	39	5.15
126	39	6.10	126	39	6.97	85	80	3.02
36	38	5.82	36	38	4.08	36	38	2.76
85	80	3.26	275	242	1.50	275	242	1.19
275	242	3.19	148	19	0.74	148	19	0.74
211	29	0.00	211*	29	**	211	29	0.00
148	19	0.47	123	19	**	123	19	**
318#	156	#	318#	156	#	318#	156	#
			Land in Class III[1]					
222	20	2.25	222	20	2.75	222	20	4.15

[1] Schedule numbers 124, 297, 189, 213, 205 of land in Class I, 322 of land in Class II, and 87 of land in Class III, which are cash-rented farms, have not been included.

* Rented for the year specified.

# Impossible to separate total cash costs into A and B units.

** Data incomplete.

Vineyards in the Merced Irrigation District on the Three Classes of Land

Arranged in Order of Labor Costs per Acre, 1931, 1930, and 1929 1/

1931						1930						1929					
Schedule no.	Acres	Labor costs per acre				Schedule no.	Acres	Labor costs per acre				Schedule no.	Acres	Labor costs per acre			
		Total	Hired	Family	Board			Total	Hired	Family	Board			Total	Hired	Family	Board
Land in Class I																	
244	20	$105.00	$ 7.50	$ 97.50	$0.00	244	20	$144.00	$7.50	$136.50	$0.00	244	20	$146.50	$10.00	$136.50	$0.00
204	34	87.06	41.18	45.88	0.00	218	47	106.25	37.23	50.34	18.68	218	47	111.57	42.55	50.34	18.68
218	47	85.11	31.92	35.96	17.23	204	34	105.41	41.18	64.23	0.00	242	35	100.57	48.57	52.00	0.00
242	35	65.71	28.57	37.14	0.00	242	35	94.86	42.86	52.00	0.00	204	34	99.52	35.29	64.23	0.00
210	31	62.97	13.94	41.94	7.10	241	35	93.92	34.11	59.81	0.00	210	31	84.40	19.23	58.72	6.45
221	26	60.96	38.46	22.50	0.00	210	31	82.56	17.39	58.72	6.45	241	35	72.01	12.20	59.81	0.00
215	47	50.43	25.53	24.89	0.00	256	68	68.76	20.59	48.17	0.00	112	38	68.00	10.53	57.47	0.00
241	35	49.74	7.03	42.72	0.00	112	38	65.36	7.89	57.47	0.00	208	20	67.50	67.50	0.00	0.00
256	68	48.63	14.22	34.41	0.00	149	19	63.16	24.84	38.32	0.00	256	68	67.29	19.12	48.17	0.00
149	19	46.74	19.37	27.37	0.00	215	47	60.38	25.53	34.85	0.00	215	47	60.38	25.53	34.85	0.00
112	38	45.00	3.95	41.05	0.00	221	26	58.42	26.92	31.50	0.00	221	26	60.35	28.85	31.50	0.00
157	86	41.40	23.26	18.14	0.00	208	20	55.00	55.00	0.00	0.00	240	122	57.29	57.29	0.00	0.00
320	443	39.51	39.51	0.00	0.00	240	122	51.85	51.85	0.00	0.00	149	19	56.85	18.53	38.32	0.00
86	20	37.75	31.25	6.50	0.00	157	86	50.98	25.58	25.40	0.00	320	443	54.57	54.57	0.00	0.00
240	122	36.51	36.51	0.00	0.00	82	59	50.58	13.56	37.02	0.00	157	86	54.47	29.07	25.40	0.00
219	28	35.29	35.29	0.00	0.00	108	98	48.82	48.82	0.00	0.00	82	59	53.97	16.95	37.02	0.00
220	20	33.50	7.50	26.00	0.00	320	443	47.15	47.15	0.00	0.00	220	20	47.40	11.00	36.40	0.00
315	200	32.87	32.87	0.00	0.00	86	20	46.60	37.50	9.10	0.00	86	20	47.20	38.10	9.10	0.00
108	98	31.04	31.04	0.00	0.00	220	20	46.40	10.00	36.40	0.00	108	98	46.30	46.30	0.00	0.00
147	23	30.00	18.70	11.30	0.00	245	125	39.85	28.20	11.65	0.00	152	223	46.09	46.09	0.00	0.00
82	59	28.98	2.54	26.44	0.00	219	28	36.43	36.43	0.00	0.00	245	125	42.09	30.44	11.65	0.00
152	223	28.72	28.72	0.00	0.00	150	39	34.92	6.92	28.00	0.00	219	28	38.21	38.21	0.00	0.00
264	130	28.56	28.56	0.00	0.00	264	130	34.91	34.91	0.00	0.00	147	23	34.52	18.70	15.82	0.00
245	125	27.44	19.12	8.32	0.00	147	23	34.52	18.70	15.82	0.00	264	130	33.32	33.32	0.00	0.00
217	46	22.39	5.44	16.96	0.00	152	223	33.02	33.02	0.00	0.00	217	46	30.81	7.07	23.74	0.00
150	39	22.31	2.31	20.00	0.00	217	46	30.26	6.52	23.74	0.00	150	39	29.92	1.92	28.00	0.00
158	46	21.15	4.20	16.96	0.00	158	46	27.98	4.24	23.74	0.00	247	21	2.95	2.95	0.00	0.00
247	21	0.86	0.86	0.00	0.00	247	21	1.24	1.24	0.00	0.00	89	38	0.00	0.00	0.00	0.00
89	38	0.00	0.00	0.00	0.00	89	38	0.00	0.00	0.00	0.00	158	46	**	**	**	**
208	20	**	**	**	**	315	200	**	**	**	**	315	200	**	**	**	**
287#	76	#	#	#	#	287#	76	#	#	#	#	287#	76	#	#	#	#
Land in Class II																	
246	20	60.05	8.05	52.00	0.00	246	20	83.10	10.30	72.80	0.00	246	20	79.55	6.75	72.80	0.00
36	38	43.42	2.37	41.05	0.00	36	38	58.79	1.32	57.47	0.00	36	38	58.79	1.32	57.47	0.00
123	19	39.47	5.26	34.21	0.00	92	39	44.62	9.62	35.00	0.00	92	39	45.26	10.26	35.00	0.00
92	39	31.80	6.80	25.00	0.00	151	39	41.80	18.46	23.34	0.00	324	120	38.31	38.31	0.00	0.00
85	80	25.62	1.25	24.38	0.00	85	80	35.38	1.25	34.13	0.00	211	29	36.83	36.83	0.00	0.00
211	29	25.38	25.38	0.00	0.00	126	39	35.05	7.05	28.00	0.00	85	80	34.13	0.00	34.13	0.00
324	120	25.32	25.32	0.00	0.00	216	36	30.83	5.55	25.28	0.00	216	36	33.61	8.33	25.28	0.00
275	242	24.87	21.65	3.22	0.00	324	120	24.85	24.85	0.00	0.00	126	39	28.00	0.00	28.00	0.00
216	36	21.39	0.00	18.06	3.33	207	220	18.54	10.29	8.25	0.00	151	39	26.42	3.08	23.34	0.00
126	39	21.28	1.28	20.00	0.00	148	19	12.58	12.58	0.00	0.00	207	220	18.35	10.10	8.25	0.00
151	39	20.13	3.46	16.67	0.00	275	242	4.71	4.71	0.00	0.00	148	19	12.63	12.63	0.00	0.00
207	220	13.73	7.84	5.89	0.00	211*	29	*	*	*	*	275	242	0.00	0.00	0.00	0.00
148	19	7.42	7.42	0.00	0.00	123	19	**	**	**	**	123	19	**	**	**	**
318#	156	#	#	#	#	318#	156	#	#	#	#	318#	156	#	#	#	#
Land in Class III																	
222	20	24.50	5.00	19.50	0.00	222	20	28.05	0.75	27.30	0.00	222	20	27.30	0.00	27.30	0.00

* Rented for the year specified.

** Data incomplete.

# Impossible to separate total cash costs into A and B units.

1/ Schedule numbers 189, 205, 124, 213, 297, Land in Class I, 322, Land in Class II, and 87, Land in Class III, which are cash-rented farms, have not been included.

Table XXVIII

Vineyards in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Costs A+B+C+D per Acre, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre
			Land in Class I					
204	34	$208.06	204	34	$219.94	204	34	$209.35
244	20	147.70	244	20	187.60	244	20	189.85
218	47	131.66	218	47	153.02	218	47	156.59
210	31	129.61	241	35	141.75	210	31	126.81
149	19	117.63	210	31	136.33	242	35	126.77
221	26	103.62	242	35	130.00	241	35	121.32
242	35	98.23	149	19	123.58	149	19	114.21
241	35	97.80	240	122	102.98	240	122	107.21
86	20	92.10	112	38	100.79	112	38	105.66
256	68	85.97	256	68	99.50	256	68	94.04
240	122	80.61	215	47	84.77	320	443	91.15
147	23	77.70	320	443	84.15	157	86	87.90
215	47	75.89	157	86	83.85	215	47	85.53
112	38	75.50	82	59	78.99	82	59	82.61
320	443	74.45	245	125	76.72	208	20	80.85
157	86	73.22	220	20	76.55	108	98	80.13
220	20	61.60	108	98	75.42	221	26	78.35
219	28	58.43	86	20	74.05	220	20	77.25
245	125	58.37	147	23	71.91	245	125	75.93
108	98	57.69	221	26	68.35	86	20	67.45
82	59	57.08	208	20	67.80	264	130	63.45
264	130	53.91	264	130	64.46	152	223	62.32
315	200	53.28	150	39	62.46	147	23	61.82
150	39	47.00	219	28	54.64	219	28	55.11
152	223	43.13	152	223	49.40	150	39	54.36
217	46	37.93	217	46	46.78	287	76	46.88
205*	88	37.03	158	46	39.04	217	46	46.76
158	46	33.04	287	76	35.54	247	21	19.52
287	76	28.72	89	38	17.37	124*	20	18.85
89	38	21.00	124*	20	16.55	89	38	17.13
124*	20	17.55	247	21	16.14	213*	40	12.00
247	21	16.14	213*	40	12.88	297*	40	6.65
213*	40	12.68	189*	37	10.54	189*	37	**
189*	37	10.22	297*	40	5.60	205*	88	**
297*	40	5.55	205*	88	**	158	46	**
208	20	**	315	200	**	315	200	**
			Land in Class II					
246	20	101.60	318	156	129.93	318	156	144.34
123	19	65.10	246	20	122.05	246	20	111.40
92	39	61.38	151	39	71.82	92	39	70.23
318	156	57.60	92	39	71.46	324	120	67.92
36	38	57.65	36	38	69.89	36	38	67.86
216	36	52.66	324	120	66.52	216	36	60.16
324	120	51.18	216	36	65.91	151	39	57.95
151	39	47.97	85	80	56.57	85	80	49.30
126	39	42.33	126	39	55.90	126	39	46.41
85	80	41.98	207	220	34.84	211	29	46.34
275	242	41.59	148	19	31.47	207	220	34.97
211	29	34.65	275	242	20.13	148	19	30.05
207	220	28.38	211*	29	5.79	275	242	15.05
148	19	25.52	322*	460	2.57	322*	460	10.86
322*	460	1.90	123	19	**	123	19	**
			Land in Class III					
222	20	32.35	222	20	36.65	222	20	36.10
87*	40	6.35	87*	40	**	87*	40	**

* Rented farms.

** Data incomplete.

Table XXIX

Vineyards in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Net Return per Acre Over Costs A+B, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A+B	Schedule number	Acres	Net return per acre over costs A+B	Schedule number	Acres	Net return per acre over costs A+B
			Land in Class I					
220	20	$82.65	220	20	$100.25	86	20	$117.05
86	20	80.75	86	20	95.40	150	39	108.74
147	23	46.60	149	19	35.57	147	23	98.27
297*	40	32.90	256	68	19.18	220	20	84.25
149	19	17.31	247	21	17.62	208	20	70.30
150	39	16.41	150	39	16.59	108	98	64.47
108	98	15.43	213*	40	15.00	149	19	27.16
213*	40	15.00	108	98	14.91	245	125	26.96
247	21	12.81	297*	40	14.60	320	443	26.06
205*	88	7.05	147	23	13.05	297*	40	23.05
89	38	4.82	89	38	11.26	264	130	16.43
82	59	2.84	287	76	11.01	213*	40	15.00
189*	37	2.41	264	130	3.34	124*	20	14.55
217	46	2.33	217	46	2.92	247	21	14.43
240	122	2.10	189*	37	2.73	152	223	13.84
264	130	0.35	124*	20	1.75	287	76	10.98
152	223	-0.17	82	59	-1.97	217	46	10.68
124*	20	-0.75	245	125	-3.29	89	38	8.84
158	46	-1.33	157	86	-3.86	241	35	3.65
315	200	-2.30	221	26	-4.50	157	86	2.33
157	86	-2.51	152	223	-5.12	82	59	0.10
256	68	-5.27	208	20	-7.05	256	68	-2.71
112	38	-8.95	158	46	-7.65	240	122	-8.51
245	125	-11.52	240	122	-15.42	215	47	-22.30
215	47	-11.91	320	443	-27.67	219	28	-27.25
287	76	-12.06	215	47	-29.77	221	26	-31.40
219	28	-16.00	204	34	-32.14	218	47	-36.28
241	35	-24.71	241	35	-40.12	112	38	-41.29
320	443	-31.58	242	35	-45.60	242	35	-56.77
221	26	-36.62	218	47	-46.51	210	31	-71.91
218	47	-38.81	219	28	-47.28	244	20	-75.65
242	35	-42.31	112	38	-50.34	204	34	-156.59
244	20	-42.40	210	31	-65.78	205*	88	**
210	31	-46.22	244	20	-73.50	189*	37	**
204	34	-67.53	205*	88	**	158	46	**
208	20	**	315	200	**	315	200	**
			Land in Class II					
318	156	17.51	151	39	19.95	318	156	80.87
211	29	8.03	275	242	17.64	211	29	31.14
151	39	7.66	211*	29	7.48	126	39	28.21
275	242	5.22	126	39	0.41	275	242	16.68
126	39	2.82	322*	460	-0.69	246	20	11.05
322*	460	0.87	207	220	-4.97	151	39	6.51
148	19	-2.00	216	36	-5.08	216	36	1.50
207	220	-6.79	148	19	-5.43	207	220	1.45
85	80	-7.67	85	80	-6.78	322*	460	-0.59
324	120	-13.17	318	156	-18.26	85	80	-7.09
92	39	-16.39	92	39	-19.11	148	19	-7.32
216	36	-18.64	324	120	-20.96	324	120	-10.31
246	20	-28.35	36	38	-37.45	92	39	-15.72
36	38	-29.27	246	20	-40.30	36	38	-42.02
123	19	-38.36	123	19	**	123	19	**
			Land in Class III					
87*	40	7.00	222	20	-14.30	222	20	-21.95
222	20	-14.75	87*	40	**	87*	40	**

* Rented farms.

** Data incomplete.

Table XXX

Vineyards in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Net Return per Acre Over Costs A+B+C+D, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D
			Land in Class I					
220	20	$ 70.90	220	20	$ 88.45	86	20	$101.30
86	20	33.65	86	20	79.95	150	39	88.74
297*	40	27.35	287	76	9.34	147	23	78.14
147	23	23.73	297*	40	9.00	220	20	72.75
213*	40	2.32	149	19	7.05	208	20	59.15
108	98	-0.32	247	21	3.72	108	98	48.33
247	21	-1.47	213*	40	2.12	320	443	19.41
150	39	-3.69	256	68	0.35	297*	40	16.40
189*	37	-7.49	108	98	-0.97	245	125	14.36
217	46	-8.69	150	39	-3.79	287	76	9.40
89	38	-9.76	89	38	-6.11	152	223	3.83
152	223	-10.74	189*	37	-7.49	264	130	3.61
149	19	-11.16	217	46	-8.19	213*	40	3.00
158	46	-11.52	264	130	-9.49	217	46	0.63
264	130	-12.34	147	23	-9.69	247	21	0.53
287	76	-13.61	221	26	-13.73	149	19	-1.68
82	59	-14.71	152	223	-15.26	124*	20	-3.85
240	122	-15.50	124*	20	-15.80	89	38	-5.76
315	200	-15.82	245	125	-16.50	157	86	-16.02
124*	20	-17.55	208	20	-17.80	82	59	-16.51
205*	88	-20.78	158	46	-18.71	241	35	-20.18
157	86	-20.89	82	59	-19.67	256	68	-21.25
215	47	-24.61	157	86	-22.41	240	122	-23.22
245	125	-24.72	240	122	-33.06	215	47	-35.00
256	68	-25.53	320	443	-34.12	221	26	-40.27
112	38	-27.58	215	47	-42.64	219	28	-41.18
219	28	-29.39	219	28	-60.74	218	47	-53.72
320	443	-37.93	242	35	-61.71	112	38	-56.69
221	26	-45.93	241	35	-64.01	242	35	-66.77
241	35	-48.20	218	47	-64.19	210	31	-86.49
218	47	-57.30	112	38	-66.55	244	20	-90.35
242	35	-57.94	204	34	-72.88	204	34	-197.59
244	20	-59.20	210	31	-81.14	189*	37	**
210	31	-70.77	244	20	-88.10	205*	88	**
204	34	-108.06	205*	88	**	158	46	**
208	20	**	315	200	**	315	200	**
			Land in Class II					
318	156	12.57	275	242	3.72	318	156	75.82
322*	460	-0.69	151	39	2.54	211	29	21.63
211	29	-1.24	211*	29	-1.76	126	39	14.95
275	242	-8.31	322*	460	-2.46	275	242	2.82
151	39	-10.00	207	220	-12.97	322*	460	-2.64
126	39	-12.13	126	39	-13.46	246	20	-3.20
207	220	-14.79	216	36	-19.80	207	220	-6.55
148	19	-19.63	85	80	-20.49	151	39	-11.13
85	80	-20.76	318	156	-23.33	216	36	-12.75
92	39	-32.31	148	19	-23.58	85	80	-19.24
324	120	-32.85	92	39	-35.57	148	19	-24.00
216	36	-33.38	324	120	-40.64	324	120	-30.00
36	38	-37.66	36	38	-44.47	92	39	-31.77
123	19	-47.99	246	20	-57.10	36	38	-48.33
246	20	-49.95	123	19	**	123	19	**
			Land in Class III					
87*	40	0.65	222	20	-20.15	222	20	-26.60
222	20	-20.35	87*	40	**	87*	40	**

* Rented farms.

** Data incomplete.

Table XXXI

Grain and General Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Gross Income Per Acre, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre
			Land in Class I[1]					
159	39	$40.00	159	39	$52.31	200	30	$63.83
200	30	24.30	200	30	44.27	159	39	49.72
162	22	20.45	162	22	20.00	156	165	3.64
198	75	10.85	156	165	1.52	34	311	**
34	311	4.66	34	311	0.00	198	75	**
257	40	3.70	198	75	**	257*	40	**
156	165	1.09	257*	40	**	162*	22	**
			Land in Class II[1]					
319	78	3.01	311	243	4.21	311	243	11.45
311	243	2.58	319	78	**	319	78	**
			Land in Class III[1]					
272	126	19.53	178	19	47.42	178	19	49.42
192	20	12.00	272	126	22.78	314	166	34.31
50	101	11.15	314	166	20.43	50	101	25.63
166	102	10.28	50	101	14.78	272	126	21.46
178	19	8.47	167	48	12.50	155	56	12.84
164	40	6.98	155	56	12.23	192	20	11.00
167	48	6.04	317	80	8.85	199	20	0.00
314	166	3.98	166	102	8.47	164	40	**
317	80	1.25	192	20	7.80	166	102	**
155	56	1.07	164	40	**	317	80	**
199	20	0.00	199*	20	**	167	48	**

[1] Schedule numbers 284, 294, 296, 163, 279, 286 of land in Class I, 160, 197, 254, 36, 183, 281, 190, 301, 280, 277 of land in Class II, and 282, 161, 196, 273, 181, 278, 184, 191, 276, 290, 180, 288, 102 of land in Class III, which are cash-rented farms, have not been included.

* Rented for the year specified.

** Data incomplete.

Table XXXII

Grain and General Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Cash Costs Per Acre Other Than Labor and Taxes, 1931, 1930, and 1929[1]

1931			1930			1929		
Schedule number	Acres	Cash costs per acre other than labor and taxes	Schedule number	Acres	Cash costs per acre other than labor and taxes	Schedule number	Acres	Cash costs per acre other than labor and taxes
			Land in Class I					
200	30	$12.17	200	30	$29.87	200	30	$14.20
198	75	7.95	159	39	2.26	159	39	7.26
159	39	3.15	162	22	1.95	156	165	0.35
34	311	3.05	34	311	1.37	198	75	**
162	22	1.55	156	165	0.12	34	11	**
257	40	1.25	198	75	**	257*	40	**
156	165	**	257*	40	**	162*	22	**
			Land in Class II					
319	78	0.99	319	78	**	319	78	**
311#	243	#	311#	243	#	311#	243	#
			Land in Class III					
272	126	11.94	178	19	12.11	178	19	14.00
178	19	10.84	314	166	9.64	272	126	11.35
164	40	7.12	272	126	7.98	314	166	10.27
166	102	7.09	167	48	5.65	192	20	5.25
314	166	5.13	192	20	5.15	155	56	3.86
192	20	4.15	155	56	3.68	50	101	2.00
50	101	3.46	166	102	3.24	199	20	0.00
167	48	0.94	50	101	2.40	166	102	**
317	80	0.86	317	80	0.00	317	80	**
155	56	0.00	164	40	**	167	48	**
199	20	0.00	199*	20	**	164	40	**

[1] Schedule numbers 284, 294, 296, 163, 279, 286 of land in Class I, 160, 197, 254, 36, 183, 281, 190, 301, 280, 277 of land in Class II, and 282, 161, 196, 273, 181, 278, 184, 191, 276, 290, 180, 288, 102 of land in Class III, which are cash-rented farms, have not been included.

Impossible to separate total cash costs into A and B units.

* Rented for the year specified.

** Data incomplete.

Table XXXIII Grain and General Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Labor Costs per Acre, 1931, 1930, and 1929 [1]

1931						1930						1929					
Schedule number	Acres	Labor costs per acre				Schedule number	Acres	Labor costs per acre				Schedule number	Acres	Labor costs per acre			
		Total	Hired	Family	Board			Total	Hired	Family	Board			Total	Hired	Family	Board
								Land in Class I									
200	30	$26.00	$0.00	$26.00	$0.00	200	30	$36.40	$0.00	$36.40	$0.00	200	30	$12.00	$12.00	$ 0.00	$0.00
257	40	4.70	4.70	0.00	0.00	162	22	3.64	3.64	0.00	0.00	156	165	1.27	1.27	0.00	0.00
34	311	4.14	1.63	2.51	0.00	34	311	3.51	0.00	3.51	0.00	159	39	0.00	0.00	0.00	0.00
162	22	3.55	3.55	0.00	0.00	156	165	1.49	1.49	0.00	0.00	198	75	**	**	**	**
198	75	2.13	2.00	0.00	0.13	159	39	1.28	1.28	0.00	0.00	34	311	**	**	**	**
159	39	0.90	0.90	0.00	0.00	198	75	**	**	**	**	257*	40	*	*	*	*
156	165	**	**	**	**	257*	40	*	*	*	*	162*	22	*	*	*	*
								Land in Class II									
319	78	5.13	5.13	0.00	0.00	319	78	**	**	**	**	319	78	**	**	**	**
311#	243	**	**	**	**	311#	243	**	**	**	**	311#	243	**	**	**	**
								Land in Class III									
178	19	42.74	1.47	41.05	0.21	178	19	59.58	2.11	57.47	0.00	178	19	58.52	1.05	57.47	0.00
164	40	19.50	0.00	19.50	0.00	272	126	21.88	2.18	19.50	0.20	314	166	21.97	8.81	13.16	0.00
50	101	15.45	0.00	15.45	0.00	50	101	21.63	0.00	21.63	0.00	50	101	21.63	0.00	21.63	0.00
272	126	14.92	0.79	13.93	0.20	314	166	16.29	3.96	12.33	0.00	272	126	21.30	1.60	19.50	0.00
314	166	9.67	1.05	8.61	0.00	166	102	6.78	5.88	0.90	0.00	155	56	5.11	5.11	0.00	0.00
166	102	6.03	5.39	0.64	0.00	155	56	5.11	5.11	0.00	0.00	192	20	3.00	3.00	0.00	0.00
317	80	3.10	3.10	0.00	0.00	317	80	4.50	4.50	0.00	0.00	199	20	0.00	0.00	0.00	0.00
192	20	3.00	3.00	0.00	0.00	192	20	3.00	3.00	0.00	0.00	164	40	**	**	**	**
155	56	1.57	1.57	0.00	0.00	167	48	2.00	2.00	0.00	0.00	167	48	**	**	**	**
167	48	1.08	1.08	0.00	0.00	164	40	**	**	**	**	317	80	**	**	**	**
199	20	0.00	0.00	0.00	0.00	199	20	**	**	**	**	166	102	**	**	**	**

[1] Schedule numbers 286, 163, 284, 296, 279, 294 of land in Class I, 280, 183, 301, 281, 277, 197, 36, 190, 254, 160 of land in Class II, and 191, 196, 273, 184, 180, 290, 276, 278, 181, 161, 282, 102, 288 of land in Class III, which are cash-rented farms, have not been included.

* Rented for the year specified.

** Data incomplete.

# Impossible to separate total cash costs into A and B units.

Table XXXIV

Grain and General Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Costs A+B+C+D per Acre, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre
Land in Class I								
200	30	$56.16	200	30	$84.63	200	30	$46.69
162	22	34.27	162	22	34.91	162*	22	29.86
198	75	22.85	159	39	21.05	159	39	24.69
159	39	20.25	257*	40	8.45	257*	40	6.85
257	40	13.80	294*	43	6.23	294*	43	6.16
34	311	9.18	34	311	6.81	163*	30	4.50
294*	43	5.42	156	165	4.65	156	165	4.43
284*	57	3.86	163*	30	4.60	284*	57	3.84
163*	30	3.73	284*	57	3.84	296*	40	3.65
296*	40	3.30	296*	40	3.75	279*	20	2.75
279*	20	2.60	286*	71	2.54	286*	71	2.49
286*	71	2.09	279*	20	2.40	198	75	**
156	165	**	198	75	**	34	311	**
Land in Class II								
160*	50	11.70	160*	50	12.02	311	243	14.13
319	78	8.86	311	243	10.98	160*	50	11.94
197*	38	8.32	197*	38	9.03	197*	38	10.00
311	243	3.33	254*	104	3.29	254*	104	3.25
254*	104	3.19	183*	78	2.99	36*	40	2.95
183*	78	2.97	36*	40	2.85	183*	78	2.92
36*	40	2.75	281*	501	2.61	281*	501	2.84
190*	20	2.50	190*	20	2.50	190*	20	2.50
281*	501	2.49	301*	444	2.14	301*	444	2.13
301*	444	2.26	280*	61	1.69	280*	61	1.85
280*	61	1.79	277*	67	1.15	277*	67	1.21
277*	67	1.16	319	78	**	319	78	**
Land in Class III								
178	19	67.32	178	19	87.63	178	19	86.05
272	126	34.22	272	126	37.89	272	126	39.63
164	40	29.85	314	166	32.12	314	166	37.53
314	166	23.10	50	101	27.91	50	101	27.43
50	101	22.45	166	102	11.48	282*	960	13.63
166	102	14.89	192	20	11.15	155	56	11.17
192	20	9.90	155	56	11.10	192	20	11.15
161*	20	9.10	167	48	9.54	161*	20	6.80
317	80	5.36	161*	20	7.15	196*	40	3.20
167	48	3.87	317	80	5.96	273*	60	1.74
155	56	3.32	196*	40	3.40	199	20	1.70
102*	19	3.16	199*	20	1.85	181*	209	1.70
196*	40	3.05	181*	209	1.81	278*	23	1.52
288*	38	2.28	273*	60	1.80	184*	1004	1.48
199	20	1.80	184*	1004	1.54	191*	37	1.30
273*	60	1.75	290*	156	1.40	276*	39	1.28
181*	209	1.67	278*	23	1.39	290*	156	1.25
282*	960	1.52	191*	37	1.32	180*	20	0.80
184*	1004	1.50	276*	39	1.23	288*	38	**
278*	23	1.43	282*	960	1.03	102*	19	**
290*	156	1.37	180*	20	0.80	164	40	**
191*	37	1.35	288*	38	**	317	80	**
276*	39	1.26	102*	19	**	167	48	**
180*	20	0.80	164	40	**	166	102	**

* Rented farms.

** Data incomplete.

Table XXXV

Grain and General Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Net Return per Acre Over Costs A+B, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A+B	Schedule number	Acres	Net return per acre over costs A+B	Schedule number	Acres	Net return per acre over costs A+B
			Land in Class I					
159	39	$35.95	159	39	$48.77	159	39	$42.46
162	22	15.36	162	22	14.41	200	30	37.64
163*	30	6.67	257*	40	11.40	162*	22	23.73
296*	40	2.50	163*	30	10.00	257*	40	11.53
286*	71	1.65	284*	57	9.00	163*	30	10.00
294*	43	0.91	286*	71	4.39	286*	71	8.49
198	75	0.77	294*	43	3.44	284*	57	6.32
284*	57	0.16	296*	40	2.58	156	165	2.02
279*	20	0.00	279*	20	0.00	296*	40	1.32
257	40	-2.25	156	165	-0.09	294*	43	1.19
34	311	-2.53	34	311	-4.87	279*	20	0.00
200	30	-13.87	200	30	-22.00	34	311	**
156	165	**	198	75	**	198	75	**
			Land in Class II					
183*	78	3.59	197*	38	12.34	280*	61	16.21
277*	67	2.67	183*	78	9.23	183*	78	15.39
280*	61	2.10	281*	501	3.28	197*	38	12.34
281*	501	1.50	190*	20	2.00	301*	444	8.87
311	243	1.31	280*	61	1.82	281*	501	7.61
301*	444	1.19	277*	67	1.63	160*	50	7.22
254*	104	0.96	36*	40	1.42	36*	40	5.00
160*	50	0.86	160*	50	0.64	277*	67	4.42
190*	20	0.00	301*	444	0.11	254*	104	4.29
36*	40	0.00	254*	104	-0.24	190*	20	2.70
197*	38	-0.29	311	243	-4.69	311	243	-0.58
319	78	-3.11	319	78	**	319	78	**
			Land in Class III					
102*	19	21.05	282*	960	6.54	191*	37	9.76
192	20	4.85	167	48	4.85	196*	40	7.15
167	48	4.02	273*	60	4.77	155	56	3.88
191*	37	3.41	317	80	4.35	273*	60	3.07
184*	1004	3.20	196*	40	3.60	192	20	2.75
273*	60	2.67	155	56	3.44	50	101	2.00
290*	156	2.16	180*	20	2.50	184*	1004	1.98
180*	20	2.00	184*	1004	1.80	161*	20	1.15
181*	209	1.79	290*	156	1.73	290*	156	0.77
288*	38	1.71	161*	20	1.50	180*	20	0.50
196*	40	0.40	199*	20	1.15	181*	209	0.11
276*	39	0.00	181*	209	0.75	278*	23	0.00
278*	23	0.00	278*	23	0.00	276*	39	0.00
199	20	0.00	276*	39	0.00	199	20	0.00
282*	960	-0.22	191*	37	0.00	314	166	-2.08
161*	20	-0.35	192	20	-0.35	272	126	-11.18
155	56	-0.50	166	102	-1.54	282*	960	-12.50
317	80	-2.71	314	166	-5.50	178	19	-23.11
166	102	-2.84	272	126	-7.08	164	40	**
272	126	-7.34	50	101	-9.24	288*	38	**
50	101	-7.75	178	19	-24.26	102*	19	**
314	166	-10.82	164	40	**	167	48	**
164	40	-19.64	288*	38	**	317	80	**
178	19	-45.11	102*	19	**	166	102	**

* Rented farms.

** Data incomplete.

Table XXXVI

Grain and General Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Net Return Per Acre Over Costs A+B+C+D, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D
				Land in Class I				
159	39	$19.75	159	39	$31.26	159	39	$25.03
163*	30	2.94	163*	30	5.40	200	30	17.14
286*	71	-0.44	284*	57	5.16	286*	71	6.00
296*	40	-0.80	257*	40	3.50	163*	30	5.50
279*	20	-2.60	286*	71	1.85	257*	40	5.23
284*	57	-3.70	296*	40	-1.17	284*	57	2.48
294*	43	-4.51	279*	20	-2.40	156	165	-0.79
34	311	-4.52	294*	43	-2.79	296*	40	-2.33
257	40	-10.10	156	165	-3.13	279*	20	-2.75
198	75	-12.00	34	311	-6.81	294*	43	-4.97
162	22	-13.82	162	22	-14.91	162*	22	-5.31
200	30	-31.86	200	30	-40.36	34	311	**
156	165	**	198	75	**	198	75	**
				Land in Class II				
277*	67	1.51	183*	78	6.24	280*	61	14.36
183*	78	0.62	197*	38	3.60	183*	78	12.47
280*	61	0.31	281*	501	0.79	301*	444	6.74
281*	501	-0.35	277*	67	0.48	281*	501	5.00
311	243	-0.75	280*	61	0.13	277*	67	3.21
301*	444	-0.87	190*	20	-0.50	197*	38	2.63
254*	104	-1.99	36*	40	-1.43	36*	40	2.05
190*	20	-2.50	301*	444	-2.03	254*	104	1.28
36*	40	-2.75	254*	104	-3.29	190*	20	0.20
319	78	-5.85	311	243	-6.77	311	243	-2.68
197*	38	-8.32	160*	50	-10.36	160*	50	-3.69
160*	50	-9.80	319	78	**	319	78	**
				Land in Class III				
102*	19	17.89	282*	960	5.61	191*	37	8.46
167	48	2.17	273*	60	2.97	196*	40	3.95
192	20	2.10	167	48	2.96	155	56	1.67
191*	37	2.06	317	80	2.89	273*	60	1.33
184*	1004	1.75	180*	20	1.70	184*	1004	0.50
180*	20	1.20	155	56	1.13	192	20	-0.15
273*	60	0.92	290*	156	0.33	180*	20	-0.30
290*	156	0.79	184*	1004	0.29	290*	156	-0.48
181*	209	0.17	196*	40	0.20	276*	39	-1.28
288*	38	-0.57	199*	20	-0.70	278*	23	-1.52
282*	960	-1.26	181*	209	-1.03	181*	209	-1.59
276*	39	-1.26	276*	39	-1.23	199	20	-1.70
278*	23	-1.43	191*	37	-1.32	50	101	-1.80
199	20	-1.80	278*	23	-1.39	314	166	-3.22
155	56	-2.25	166	102	-3.01	161*	20	-5.30
196*	40	-2.65	192	20	-3.35	282*	960	-13.63
317	80	-4.11	161*	20	-5.30	272	126	-18.17
166	102	-4.61	314	166	-11.69	178	19	-36.63
161*	20	-9.10	50	101	-13.13	166	102	**
50	101	-11.30	272	126	-15.11	164	40	**
272	126	-14.69	178	19	-40.21	102*	19	**
314	166	-19.12	164	40	**	288*	38	**
164	40	-22.87	102*	19	**	317	80	**
178	19	-58.85	288*	38	**	167	48	**

* Rented farms.

** Data incomplete.

Table XXXVII

Truck Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Gross Income per Acre, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre	Schedule number	Acres	Gross income per acre
				Land in Class I[1]				
75#	26	$103.85	75#	26	$126.77	75#	26	$134.62
193	20	33.75	193	30	39.90	193	70	93.75
117	38	24.18	316	260	32.98	316	260	37.02
110	118	22.43	298	60	26.67	26	27	34.81
26	27	21.30	26	27	25.93	110	118	23.31
316	260	19.90	110	118	25,14	117	38	15.00
72	21	19.52	117	38	22.29	79	34	14.71
79	19	5.26	72	21	22.14	51	127	0.00
51	127	0.51	79	34	9.79	298	60	37.52
298*	60	*	51	127	0.51	72*	21	*
				Land in Class II[1]				
58	26	44.77	71	21	73.10	71	21	96.19
71	21	40.71	58	26	64.92	142	61	42.31
52	50	30.92	55	39	43.44	52	50	37.36
55	39	30.23	168	53	35.66	168	53	36.04
261	20	27.55	261	20	35.55	55	39	29.90
168	53	27.53	142	61	33.15	261	20	24.95
69	286	22.94	69	286	30.05	69	286	24.23
81	39	21.54	52	50	28.84	81	39	24.18
57	30	19.43	81	39	25.62	107	96	16.99
201	20	18.00	252	36	18.08	115	78	13.55
56	20	17.50	115	78	13.37	145	39	12.82
107	196	17.07	107	196	10.64	119	47	1.60
142	61	13.74	59	40	10.28	59	40	0.00
145	39	10.00	145	39	10.26	58	26	**
115	78	9.45	251	36	7.19	57	30	**
119	47	7.87	49	20	5.25	201	20	**
59	40	7.75	119	47	1.53	56	20	**
179	78	6.03	56	20	0.00	179	78	**
49	20	5.25	57	30	**	49	20	**
252	36	0.69	201	20	**	252	36	**
251	36	0.58	179	78	**	251	36	**
				Land in Class III[1]				
6#	136	93.03	6#	136	156.62	6#	136	160.75
120	48	38.75	120	48	61.77	120	48	83.58
70	38	15.79	70	38	21.05	70	38	14.08
143	23½	2.98	143	23½	**	283	61	2.70
283*	61	*	283*	61	*	143	23½	**

[1] Schedule numbers 186, 140, 255, 109 of land in Class I, 263, 185, 237, 139, 73, 262, 68, 170, 291, 121, 300, 122, 253, 27 of land in Class II, and 292, 90, 299, 138, 67, 293 of land in Class III, which are cash-rented farms, have not been included.

# Farm income, due in part to rather extensive commercial activity, not dependent upon productivity of land.

* Rented for the year specified.

** Data incomplete.

Table XXXVIII

Truck Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Cash Costs per Acre Other Than Labor and Taxes, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Cash costs per acre other than labor and taxes	Schedule number	Acres	Cash costs per acre other than labor and taxes	Schedule number	Acres	Cash costs per acre other than labor and taxes
				Land in Class I[1]				
117	38	$12.58	110	118	$11.34	117	38	$11.95
110	118	10.67	117	38	9.58	75	26	10.19
26	27	8.44	75	26	7.69	26	27	6.48
316	260	7.27	26	27	6.63	110	118	5.86
75	26	6.54	316	260	5.38	316	260	4.22
72	21	5.86	193	20	4.00	193	20	2.15
51	127	3.50	72	21	3.43	79	34	1.47
193	20	0.35	79	34	1.76	51	127	0.12
79	19	0.26	51	127	0.84	72*	21	*
298*	60	*	298#	60	#	298#	60	#
				Land in Class II[1]				
71	21	37.14	71	21	27.67	71	21	38.52
59	40	16.48	69	286	11.75	168	53	29.57
261	20	13.20	168	53	9.83	69	286	11.13
57	30	11.76	59	40	9.10	261	20	10.10
145	39	11.36	81	39	8.62	107	196	9.11
69	286	9.45	107	196	8.54	81	39	6.69
55	39	8.56	58	26	6.46	179	78	4.82
107	196	8.55	56	20	5.75	59	40	3.75
58	26	8.38	49	20	5.00	55	39	3.74
81	39	8.02	179	78	4.18	119	47	3.29
52	50	7.88	55	39	3.87	145	39	1.79
179	78	7.29	119	47	3.79	142	61	1.57
49	20	6.50	261	20	2.90	52	50	1.20
56	20	6.10	145	39	2.56	115	78	0.00
119	47	4.55	142	61	2.41	49	20	**
201	20	3.40	52	50	1.20	251	26	**
168	53	2.58	115	78	0.47	252	36	**
251	26	2.00	57	30	**	57	30	**
252	36	1.80	251	26	**	201	20	**
115	78	1.62	252	36	**	58	26	**
142	61	1.46	201	20	**	56	20	**
				Land in Class III[1]				
6	136	59.83	6	136	73.83	6	136	83.08
120	48	46.00	120	48	11.81	120	48	14.52
70	38	7.05	70	38	4.29	70	38	11.00
143	23½	5.62	283*	61	*	283#	61	#
283*	61	*	143	23½	**	143	23½	**

[1] Schedule numbers 186, 140, 109, 255 of land in Class I, 253, 263, 27, 237, 170, 185, 300, 122, 262, 68, 73, 121, 291, 139 of land in Class II, and 90, 292, 293, 67, 138, 299 of land in Class III, which are cash-rented farms, have not been included.

* Rented for the year specified.

Impossible to separate total cash costs into A and B units.

Owners operate a hatchery and do tractor work off the farm.

** Data incomplete.

Truck Farms in the Merced Irrigation District on the Three Classes

of Land Arranged in Order of Labor Costs per Acre, 1931, 1930, and 1929 1/

1931						1930						1929					
Schedule no.	Acres	Labor costs per acre				Schedule no.	Acres	Labor costs per acre				Schedule no.	Acres	Labor costs per acre			
		Total	Hired	Family	Board			Total	Hired	Family	Board			Total	Hired	Family	Board
							Land in Class I										
79	19	$41.05	$0.00	$41.05	$0.00	193	20	$57.30	$2.70	$54.60	$0.00	193	20	$84.15	$29.55	$54.60	$0.00
193	20	39.00	0.00	39.00	0.00	117	38	43.37	0.26	43.11	0.00	117	38	43.37	0.26	43.11	0.00
117	38	31.32	0.53	30.79	0.00	75	26	42.00	0.00	42.00	0.00	75	26	42.00	0.00	42.00	0.00
75	26	30.00	0.00	30.00	0.00	26	27	40.45	0.00	40.45	0.00	26	27	40.45	0.00	40.45	0.00
26	27	28.89	0.00	28.89	0.00	79	34	32.59	0.47	32.12	0.00	79	34	32.12	0.00	32.12	0.00
316	260	12.93	9.33	3.00	0.00	316	260	18.59	14.39	4.20	0.00	51	127	17.19	0.00	17.19	0.00
51	127	12.83	0.55	12.28	0.00	51	127	18.37	1.18	17.19	0.00	316	260	13.36	9.16	4.20	0.00
110	118	11.27	6.44	3.30	1.53	110	118	12.59	6.44	4.62	1.53	110	118	12.17	6.02	4.62	1.53
72	21	6.19	6.19	0.00	0.00	72	21	7.14	7.14	0.00	0.00	72*	21	*	*	*	*
298*	60	*	*	*	*	298#	60	#	#	#	#	298#	60	#	#	#	#
							Land in Class II										
71	21	132.14	2.14	130.00	0.00	71	21	184.38	2.38	182.00	0.00	71	21	183.90	1.90	182.00	0.00
56	20	58.50	0.00	58.50	0.00	56	20	81.90	0.00	81.90	0.00	119	47	72.90	2.13	69.71	1.06
119	47	53.62	2.55	49.79	1.28	119	47	72.90	2.13	69.71	1.06	261	20	68.25	0.00	68.25	0.00
261	20	50.50	1.75	48.75	0.00	52	50	68.52	3.00	65.52	0.00	52	50	66.52	1.00	65.52	0.00
52	50	47.80	1.00	46.80	0.00	261	20	68.25	0.00	68.25	0.00	145	39	56.00	0.00	56.00	0.00
57	30	45.67	6.67	39.00	0.00	58	26	63.31	10.81	52.50	0.00	55	39	56.00	0.00	56.00	0.00
201	20	44.25	5.25	39.00	0.00	145	39	56.00	0.00	56.00	0.00	179	78	41.88	9.23	30.34	2.31
58	26	43.50	6.00	37.50	0.00	55	39	56.00	0.00	56.00	0.00	81	39	28.00	0.00	28.00	0.00
145	39	40.00	0.00	40.00	0.00	49	20	54.60	0.00	54.60	0.00	59	40	27.30	0.00	27.30	0.00
55	39	40.00	0.00	40.00	0.00	179	78	41.88	9.23	30.34	2.31	168	53	26.67	0.91	25.76	0.00
49	20	39.00	0.00	39.00	0.00	81	39	28.00	0.00	28.00	0.00	142	61	20.37	2.46	17.91	0.00
59	40	34.12	0.00	34.12	0.00	59	40	27.30	0.00	27.30	0.00	115	78	14.64	0.64	14.00	0.00
179	78	22.18	0.51	21.67	0.00	168	53	25.76	0.00	25.76	0.00	107	196	9.47	2.04	7.43	0.00
81	39	20.00	0.00	20.00	0.00	142	61	20.37	2.46	17.91	0.00	69	286	8.72	4.90	3.82	0.00
168	53	18.40	0.00	18.40	0.00	115	78	16.64	2.64	14.00	0.00	58	26	**	**	**	**
142	61	16.07	3.28	12.79	0.00	107	196	10.41	2.98	7.43	0.00	49	20	**	**	**	**
115	78	12.36	2.36	10.00	0.00	69	286	9.93	6.11	3.82	0.00	56	20	**	**	**	**
107	196	7.96	2.65	5.31	0.00	57	30	**	**	**	**	57	30	**	**	**	**
69	286	5.14	2.42	2.73	0.00	201	20	**	**	**	**	201	20	**	**	**	**
252	36	4.58	4.58	0.00	0.00	252	36	**	**	**	**	252	36	**	**	**	**
251	26	3.31	3.31	0.00	0.00	251	26	**	**	**	**	251	26	**	**	**	**
							Land in Class III										
143	23½	33.19	0.00	33.19	0.00	6	136	40.48	22.88	16.06	1.54	6	136	41.45	23.85	16.06	1.54
6	136	24.30	11.36	11.47	1.47	70	38	28.74	0.00	28.74	0.00	120	48	31.40	8.65	22.75	0.00
70	38	20.53	0.00	20.53	0.00	120	48	28.15	5.40	22.75	0.00	70	38	28.74	0.00	28.74	0.00
120	48	16.25	0.00	16.25	0.00	143	23½	**	**	**	**	143	23½	**	**	**	**
283*	61	*	*	*	*	283*	61	*	*	*	*	283#	61	#	#	#	#

* Rented for the year specified.

** Data incomplete.

# Impossible to separate total cash costs into A and B units.

1/ Schedule numbers 186, 140, 109, 255, Land in Class I; 253, 263, 27, 237, 170, 185, 300, 122, 262, 68, 73, 121, 291, 139, Land in Class II; and 90, 292, 293, 67, 138, 299, Land in Class III, which are cash-rented farms, have not been included.

Truck Farms in the Merced Irrigation District on the Three Classes of Land

Arranged in Order of Costs A+B+C+D per Acre, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre	Schedule number	Acres	Costs A+B+C+D per acre
				Land in Class I				
117	38	$60.13	193	20	$74.40	193	20	$99.20
193	20	51.95	117	38	69.64	117	38	71.64
79	19	50.47	26	27	61.78	26	27	59.78
26	27	49.67	298	60	54.62	79	34	40.68
110	118	33.39	79	34	41.77	298	60	35.27
316	260	30.57	316	260	34.30	51	127	26.03
51	127	24.75	110	118	33.07	110	118	25.26
72	21	20.00	51	127	28.11	316	260	24.63
186*	66	8.97	72	21	17.38	186*	60	9.48
140*	26	8.00	186*	66	9.79	140*	26	8.12
109*	90	7.27	140*	26	8.42	72*	21	7.05
298*	60	5.05	255*	42	3.52	255*	42	3.57
255*	42	3.57	109*	90	**	109*	90	**
75	26	**	75	26	**	75	26	**
				Land in Class II				
71	21	193.81	71	21	233.05	71	21	247.43
261	20	75.00	56	20	91.90	261	20	90.00
58	26	73.19	119	47	90.52	119	47	89.66
119	47	71.34	58	26	89.65	52	50	78.42
59	40	69.92	261	20	83.00	55	39	72.59
56	20	68.65	52	50	78.68	168	53	71.32
57	30	66.93	55	39	72.49	145	39	65.56
52	50	64.08	145	39	66.56	179	78	57.61
55	39	60.33	49	20	66.45	59	40	54.55
145	39	59.23	59	40	57.15	81	39	44.41
201	20	54.90	179	78	56.13	142	61	28.37
49	20	52.15	81	39	46.41	107	196	27.04
81	39	37.31	142	61	45.89	69	286	25.96
179	78	36.35	168	53	41.72	115	78	16.54
253*	40	27.80	69	286	30.21	263*	58	9.46
168	53	27.45	107	196	28.49	253*	40	8.40
107	196	25.84	115	78	18.97	237*	20	6.45
69	286	22.98	263*	58	9.81	185*	20	6.40
142	61	22.61	73*	28	8.57	170*	60	5.87
115	78	15.76	253*	40	8.55	300*	58	5.33
263*	58	9.67	237*	20	6.55	121*	863	4.19
27*	40	8.55	170*	60	6.15	122*	73	4.11
252	36	8.50	300*	58	5.93	291*	52	3.13
251	26	7.42	185*	20	4.40	139*	183	2.82
237*	20	5.85	121*	863	4.07	68*	46	2.78
170*	60	5.82	122*	73	4.00	73*	28	2.04
185*	20	5.80	262*	39	3.72	27*	40	**
300*	58	5.59	291*	52	3.17	58	26	**
122*	73	4.22	68*	46	2.96	56	20	**
262*	39	3.79	139*	183	2.90	57	30	**
73*	28	3.54	252	36	**	201	20	**
121*	863	3.48	251	26	**	49	20	**
291*	52	3.10	27*	40	**	252	36	**
139*	183	2.87	57	30	**	251	26	**
68*	46	2.63	201	20	**	262*	39	**
				Land in Class III				
6	136	100.13	6	136	130.53	6	136	138.16
120	48	65.92	120	48	47.37	120	48	53.04
90*	45	48.11	70	38	40.42	70	38	46.68
143	23½	41.91	283*	61	9.08	283	61	17.41
70	38	35.05	90*	45	7.69	90*	45	7.76
283*	61	10.61	293*	38	4.29	293*	38	4.26
292*	58	3.76	292*	58	3.81	292*	58	3.76
293*	38	3.47	138*	42	3.33	138*	42	3.24
138*	42	3.10	299*	61	2.97	67*	157	3.01
67*	157	2.36	67*	157	2.69	299*	61	2.74
299*	61	1.67	143	23½	**	143	23½	**

* Rented farms.

** Data incomplete.

Truck Farms in the Merced Irrigation District on the Three Classes of Land in Order of Net Return per Acre over Costs A + B, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A + B	Schedule number	Acres	Net return per acre over costs A + B	Schedule number	Acres	Net return per acre over costs A + B
Land in Class I								
75#	26	$67.31	75#	26	$77.08	75#	26	$82.43
298*	60	13.20	72	21	11.57	72*	21	28.09
186*	66	7.58	186*	66	10.00	140*	26	25.00
72	21	7.47	316	260	9.01	316	260	19.44
109*	90	0.72	140*	26	7.69	255*	42	13.57
110	118	0.49	110	118	1.22	298	60	7.74
140*	26	0.00	255*	42	0.00	193	20	7.45
255*	42	0.00	51	127	-18.70	186*	66	5.91
316	260	-0.30	26	27	-21.15	110	118	5.29
193	20	-5.60	193	20	-21.40	26	27	-12.12
51	127	-15.83	298	60	-22.56	51	127	-17.31
26	27	-16.03	79	34	-24.57	79	34	-18.88
117	38	-19.72	117	38	-30.66	117	38	-40.32
79	19	-36.06	109*	90	**	109	90	**
Land in Class II								
262*	39	8.97	263*	58	34.66	263*	58	44.66
69	286	8.35	185*	20	25.00	142	61	20.37
237*	20	7.35	237*	20	14.00	237*	20	14.00
168	53	6.83	142	61	10.37	170*	60	13.15
27*	40	4.95	139*	183	9.93	68*	46	10.87
300*	58	4.31	69	286	8.37	139*	183	9.82
185*	20	1.70	262*	39	7.69	122*	73	8.22
170*	60	1.53	73*	28	7.50	300*	58	8.00
121*	863	1.21	68*	46	7.26	73*	28	6.07
107	196	0.56	168	53	4.75	291*	52	5.81
139*	183	0.53	170*	60	4.06	121*	863	4.51
73*	28	0.28	291*	52	3.96	69	286	4.39
68*	46	0.00	121*	863	3.90	185*	20	0.00
122*	73	0.00	300*	58	1.24	253*	40	-0.38
291*	52	0.00	122*	73	0.99	115	78	-1.09
263*	58	-0.34	253*	40	-0.38	107	196	-1.58
142	61	-0.78	115	78	-3.75	81	39	-10.51
115	78	-4.55	139	183	-4.85	168	53	-23.46
251	26	-4.73	107	196	-8.31	55	39	-29.84
252	36	-5.70	81	39	-11.00	52	50	-30.36
81	39	-6.49	55	39	-16.43	59	40	-31.55
58	26	-7.12	59	40	-26.12	145	39	-44.97
55	39	-18.33	261	20	-35.60	261	20	-53.40
253*	40	-19.88	52	50	-40.88	119	47	-74.60
179	78	-23.45	145	39	-48.30	71	21	-126.24
52	50	-24.76	49	20	-54.35	251	26	**
201	20	-29.65	119	47	-75.16	252	36	**
261	20	-36.15	56	20	-87.65	179	78	**
57	30	-38.00	71	21	-138.95	201	20	**
49	20	-40.25	57	30	**	57	30	**
145	39	-41.36	201	20	**	49	20	**
59	40	-42.85	179	78	**	56	20	**
56	20	-47.10	27*	40	**	27*	40	**
119	47	-50.30	252	36	**	262*	39	**
71	21	-128.57	251	26	**	58	26	**
Land in Class III								
6#	136	8.90	6#	136	42.30	6#	136	38.12
292*	58	5.69	292*	58	10.78	120	48	34.30
138*	42	2.62	90*	45	4.67	67*	38	7.23
90*	45	1.89	299*	61	3.03	90*	45	5.78
299*	61	1.85	138*	42	2.67	292*	58	3.26
67*	38	0.09	67*	38	1.53	299*	61	2.67
283*	61	0.00	283*	61	0.00	138*	42	0.00
70	38	-11.79	120	48	-8.19	283	61	-5.30
120	48	-23.50	70	38	-11.98	70	38	-25.66
143	23½	-35.83	143	23½	**	293*	38	**
293*	38	**	293*	38	**	143	23½	**

* Rented farms.

** Data incomplete.

# Farm income due in part to rather extensive commercial activity not dependent upon productivity of land.

Truck Farms in the Merced Irrigation District on the Three Classes of Land Arranged in Order of Net Return per Acre Over Costs A+B+C+D, 1931, 1930, and 1929

1931			1930			1929		
Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D	Schedule number	Acres	Net return per acre over costs A+B+C+D
Land in Class I								
298*	60	$ 8.15	298	60	$27.95	72*	21	$21.52
72	21	-0.48	72	21	4.76	140*	26	16.88
186*	66	-1.39	186*	66	0.21	316	260	12.39
255*	42	-3.57	140*	26	-0.73	255*	42	10.00
109*	90	-6.29	316	260	-1.32	298	60	2.25
140*	26	-8.00	255*	42	-3.52	110	118	-1.95
316	260	-10.67	110	118	-7.93	186*	66	-3.57
110	118	-10.96	51	127	-27.59	193	20	-5.45
193	20	-18.20	79	34	-31.98	26	27	-24.97
51	127	-24.49	193	20	-34.50	79	34	-25.97
26	27	-28.37	26	27	-35.85	51	127	-26.08
117	38	-35.95	117	38	-47.35	117	38	-56.64
79	19	-45.21	109*	90	**	109*	90	**
75#	26	**	75#	26	**	75#	26	**
Land in Class II								
262*	39	5.18	263*	58	25.19	263*	58	35.54
237*	20	4.95	185*	20	20.60	142	61	13.94
168	53	0.36	237*	20	8.45	237*	20	8.55
69	286	-0.04	139*	183	7.07	68*	46	8.09
300*	58	-1.28	73*	28	5.72	170*	60	7.55
73*	28	-1.40	68*	46	4.30	139*	183	7.04
121*	863	-2.27	262*	39	3.97	73*	28	4.39
139*	183	-2.30	291*	52	0.79	122*	73	4.11
185*	20	-2.45	69	286	-0.16	291*	52	2.68
68*	46	-2.63	121*	863	-0.17	300*	58	2.67
291*	52	-3.10	168	53	-1.38	121*	863	0.32
27*	40	-3.60	170*	60	-1.82	69	286	-1.73
170*	60	-4.02	122*	73	-3.01	115	78	-2.99
122*	73	-4.22	300*	58	-4.69	185*	20	-6.40
142	61	-5.87	115	78	-5.60	253*	40	-8.40
115	78	-6.31	253*	40	-8.55	107	196	-10.05
251	26	-6.84	142	61	-12.74	81	39	-20.23
252	36	-7.81	107	196	-17.85	168	53	-38.55
107	196	-8.77	81	39	-20.79	52	50	-41.06
263*	58	-9.67	58	26	-24.73	55	39	-42.69
81	39	-15.77	55	39	-29.05	145	39	-52.74
253*	40	-27.80	59	40	-46.87	59	40	-54.55
58	26	-28.42	261	20	-47.45	261	20	-65.05
55	39	-30.10	52	50	-49.84	119	47	-88.06
179	78	-30.32	145	39	-56.30	71	21	-151.24
52	50	-33.16	49	20	-61.20	179	78	**
201	20	-36.90	119	47	-88.99	27*	40	**
49	20	-46.90	56	20	-91.90	262*	39	**
261	20	-47.45	71	21	-159.95	252	36	**
57	30	-47.50	179	78	**	57	30	**
145	39	-49.23	27*	40	**	251	26	**
56	20	-51.15	57	30	**	201	20	**
59	40	-62.17	201	20	**	56	20	**
119	47	-63.47	251	26	**	49	20	**
71	21	-153.10	252	36	**	58	26	**
Land in Class III								
292*	58	1.93	6#	136	26.09	120	48	30.54
299*	61	0.18	292*	58	6.97	6#	136	22.59
138*	42	-0.48	299*	61	0.06	67*	157	4.35
67*	157	-5.14	138*	42	-0.43	299*	61	-0.07
6#	136	-7.10	67*	157	-1.03	292*	58	-0.50
283*	61	-10.61	90*	45	-2.80	90*	45	-1.76
70	38	-19.26	283*	61	-9.08	138*	42	-3.24
120	48	-27.17	120	48	-15.60	283	61	-14.71
143	23½	-38.93	70	38	-19.37	70	38	-32.60
90*	45	-43.78	293*	38	**	293*	38	**
293*	38	**	143	23½	**	143	23½	**

* Rented farms.

# Farm income due in part to rather extensive commercial activity not dependent upon productivity of land.

** Data incomplete.

Results of Operations of Corporation Farms in the
Merced Irrigation District, 1929, 1930, 1931

Rather large acreages of land in the Merced District are operated or administered by corporations. In a number of cases these corporate enterprises represent stages in a development and colonization program. In others the acreages involved are lands which have come into the hands of these corporations through the necessity of foreclosing on loans previously made to other parties who were unable to meet the payments on them.

The corporate operations here summarized do not include all corporation farming operations in the District, but do include nearly all of the important and well-established companies. The total acreages operated (excluding the barley and rice lands) are: for 1929, 8,785, for 1930, 11,100, for 1931, 11,496. The record is reduced to an acre basis and combined in order that the private affairs of the individual companies may not be unduly disclosed. The companies covered in this phase of the study are in nearly all cases recognized as being ably managed and well financed. They represent settled working units which are indicative of what can be expected from operations under this type of set-up. Most of the lands operated by the companies shown in Table are in the better sections of the District. In nearly all cases the records here shown are accurate in a bookkeeping sense since practically all of these companies employ trained and experienced bookkeepers, and their records have in general been made freely available to the investigators.

It is a rather generally accepted view among students of farm management that most types of farming can be more effectively carried on by individuals operating something approximating the family size farm than by corporations with their relatively heavy overhead and lack of intimate contact with the labor and the minor details of operation. This conclusion does not apply to all conditions

of farming, and the advantages or disadvantages of corporation farming depend both on the kind of farming to be done and on the organization of the activities and the quality of management. Substantial advantages in buying and in selling are apparent in some cases. These tend to offset certain disadvantages in operations.

The results shown by these companies do not seem to lend encouragement to any assumption that the District itself either directly or through intermediaries might undertake operation on a large scale of lands coming into its hands. It could not hope to attain the quality and stability of management now in charge of most of these companies, nor could it afford the heavy investments and risks of loss which these companies are now carrying.

The results actually achieved on lands that have been acquired by the District are shown in Appendix G. These, of course, have tended to be some of the poorer and relatively over-assessed lands of the District, especially in the earlier years. In recent years, however, substantial amounts of relatively good land are coming into the hands of the District.

Where organization for operation and supervision has not been developed, considerable acreages of land taken over by mortgagees lie virtually idle. One large lending agency of recognized conservativeness has taken over on foreclosure in Merced County 1,406 acres, 17 farms in all, chiefly in the Merced Irrigation District. Of this land, practically 1,000 acres are idle and are not farmed in any way.

Table XLIII

Income and Expense of Farms in the Merced Irrigation District

Farms Operated by Corporations [1]

Farm identification	Gross income per acre	Cash expense per acre including labor	Net return per acre before taxes	County taxes per acre	Net return per acre above county taxes
1929					
C	$139.28	$123.42#	$15.86	$7.10	$8.76
B	93.86	85.84	8.02	2.39	5.63
D	30.73	29.73	1.00	2.46	-1.46
A	21.86*	19.55	2.31	3.48	-1.17
E	7.55[x]	1.89[x]	5.66	2.20	3.46
F	**	**			
1930					
C	150.17	185.61#	-35.44	7.10	-42.54
B	89.48	108.72	-19.24	2.39	-21.63
D	43.79	44.23	-0.44	2.56	-3.00
A	10.51	**	**	3.26	**
E	6.15[x]	0.76[x]	5.39	2.18	3.21
F	5.28[x]	**			
1931					
C	84.15	131.21#	-47.06	7.10	-54.16
D	29.65	44.38	-14.73	2.56	-17.29
B	21.90	26.67	-4.77	2.39	-7.16
A	10.98	14.70	-3.72	3.02	-6.74
E	3.78[x]	0.32[x]	3.46	2.21	1.25
F	3.06[x]	**			

[1] Costs shown do not include depreciation, interest or general overhead, except in B and C in which cases a charge is made for supervision but none for depreciation or interest.

* 17.37 per cent of total gross income is from outside rentals.

[x] Lands leased -- figure shown is net to owners before taxes and cost of supervision. Expense does not include all operating expenses but only expense to owner.

** Data incomplete.

# These figures do not include repair and maintenance which amount to $8.35 per acre.

Summary of Results from Barley and Rice Grown on Larger Units

The growing of these crops represents at the present time a less settled type of farming than those discussed in the preceding sections. These, being annual crops, can be put in whenever operators think there is a prospect of profit in such operations. Production can likewise be discontinued when it does not appear profitable to operate, especially in the case of those who rent lands from others for the purpose of growing these crops. Owners of these lands are, of course, under considerable pressure, owing to tax charges on them, to keep them in operation if they will yield anything above the costs entailed. Thus some are operated by the owners of the lands and some are leased on shares. In the latter case losses or gains on operations may occur which will not be reflected directly in the returns to the owners of the land and in their abilities to pay.

The very low prices of the past year or two have brought the returns down to a point where operating losses were incurred by the landowners if they operated the lands and by the lessees if the lands were operated on share lease. Ordinarily, however, such lands will show some return above operating costs, and can contribute something in the form of District taxes. Records have been secured showing specific costs chargeable to the following acreages of these two crops for the years indicated.

Barley:		Operated by owners	Leased	Total
	Year	Acres	Acres	Acres
	1929	4,989	--	4,989
	1930	441	4,173	4,614
	1931	--	3,687	3,687
	1932	4,032	3,570	7,602
Rice:	1929	6,351	--	
	1930	596	--	
	1931	1,876	--	

The results of these operations are shown in tables XLIV and XLV.

Table XLIV

Income and Expense in Growing Barley in the Merced Irrigation District

Operated farms

Year	Number of acres	Gross income			A+B costs per acre	Net income per acre above A+B	County taxes	Net income above A+B and county taxes
		Yield per acre (sacks)	Weighted average price per cwt.	Total income per acre				
1929	4,989	4.21	$1.52	$6.39	$14.90	$-8.51	$1.80	$-10.31
1930	441	10.00	1.00	11.20	9.80	1.40	1.07	0.33
1932	4,032	7.26	0.45	3.51	7.31	-3.80	2.23	-6.03
	Leased farms							
1930	4,143	12.77	1.00	4.52	0.53*	3.99	1.85	2.14
1931	3,687	6.08	1.22	2.48	0.68*	1.80	1.61	0.19
1932	3,570	10.56	0.46	1.62	0.00*	1.62	0.76	0.86

* Costs to owners of land. Do not include lessees' costs of operation. In some years the operators on leased land suffered considerable losses which are not shown in these summaries. Such losses tend, of course, to be reflected later in reduced bids for the use of land.

Table XLV

Income and Expenses -- Rice Lands

Merced Irrigation District

1929, 1930, 1931

Item	1929	1930	1931
Acreage	6,351	596	1,876
Rice improvement cost per acre	$49.04	$45.26	$51.04
Net income per acre before tolls and taxes	9.86*	11.42*	1.33*
Tolls per acre	1.20	0.36	0.79
Net income per acre over tolls	8.66	11.06	0.54
County taxes per acre	0.95	0.95	0.95
Net income per acre over tolls and county taxes	7.71	10.11	-0.41
Interest on improvements per acre (at 6 per cent)	2.63	5.43	2.55
Net income per acre over tolls, county taxes, and interest on improvements	5.08	4.68	-2.96

* To owners of lands.

The acreages devoted to rice are in general classified in this survey and in the Cone-Underhill survey as falling in Class III. This is due to the fact that the lands suited to rice are not well suited to most other types of production. Some of the lands are capable, however, of yielding very good crops of rice, and under certain price conditions can be operated profitably for that purpose. The present and prospective price situation for rice must, however, be taken into account in judging the possibilities for profitable rice production. Average prices for paddy rice in the Merced area have changed over the past few years as follows:

Year	Price per cwt.
1926	$2.84
1927	1.52*
1928	2.13
1929	2.29
1930	1.85
1931	1.35
1932	.85

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* Price of No. 1 rice at Merced was $2.65, but because of damage due to wet weather $1.52 was the average price actually received.

The price outlook for rice as discussed in the 1932 outlook report of the University of California is given in Appendix E of this report.

In considering the possible developments as to rice production the following aspects of the matter require consideration:

1. Land should not be in rice more than half the time. At other times some other crop will ordinarily be grown, usually barley or milo, these being among the crops most tolerant of alkali.
2. Much of the rice land has been operated on a one-fourth to one-third share rent. The returns shown do not take into account what were frequently heavy losses on the part of the growers

[illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

operating these lands on shares. (The owner ordinarily furnishes the water.)

3. The rice lands have a very high alkali content and should be flushed with an extra foot of water above the amounts required to raise the crop. This costs, at present toll rates, $2 per acre, and, with operators losing on the crop, is usually omitted. This affects the crop adversely and lowers the yields.
4. Growers state that from 2 to 3 cents per pound is needed to make rice growing profitable at present costs, and tax rates on this type of land. Present prices are materially below this. Costs will, however, probably be somewhat further reduced.
5. Yields run ordinarily 2,500 to 3,000 pounds per acre. On new land they may reach 5,500 pounds.

In summary it may be said that when rice growing first came into prominence in the District in 1924, 1925, and 1926, it gave great promise as a source of profit on what were otherwise some of the poorest lands of the District. The very disappointing prices of recent years render this an income source of much less promise. The production of rice has also given rise to a number of difficult problems of District operation owing to the seepage injury on adjoining lands. This has led to the zoning out of considerable areas. In these the production of rice is prohibited.

Income From Pasture Lands, 1929, 1930, 1931

In sorting the farms of 20 acres or more into groups, a substantial number was found to consist primarily of pasture land. These were treated as a separate type group, but samples from them were not drawn, and records covering them were not taken. The rental on lands of that type is fairly uniform in given years and rather definitely obtainable as a net cash return for the land before taxes and upkeep. Upkeep on farms of this type is a minor item.

The farms falling in this group included in all 15,087 acres. Rentals on land of this kind in the District have averaged about $1.50 per acre for the years 1929, 1930, and 1931, and for the year 1932-33 about $1.00 per acre.

Income from these lands before taxes is therefore estimated as follows:

1929 --	$22,630.00
1930 --	22,630.00
1931 --	22,630.00
1932 --	15,087.00

Material changes in the prices of cattle would have some effect on these returns, but the rentals tend to remain constant except as rather significant changes in livestock occur. Most of these lands are not well suited for anything but grazing. County taxes on these lands average approximately $.58 per acre.* The difference, or $.42 per acre, represents rather accurately what these lands can be depended upon to contribute in District assessments if held in private ownership. The advantages which these lands can derive from irrigation are rather limited. In some cases the difficulties from alkali are increased by the water rather than mitigated. The lands included in this group are nearly all in Class III.

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* Average of county tax in 1931 on 4,092 acres of land of this type.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Probable Ability of Lands in the Merced Irrigation District to Pay District Assessments in the Coming Years

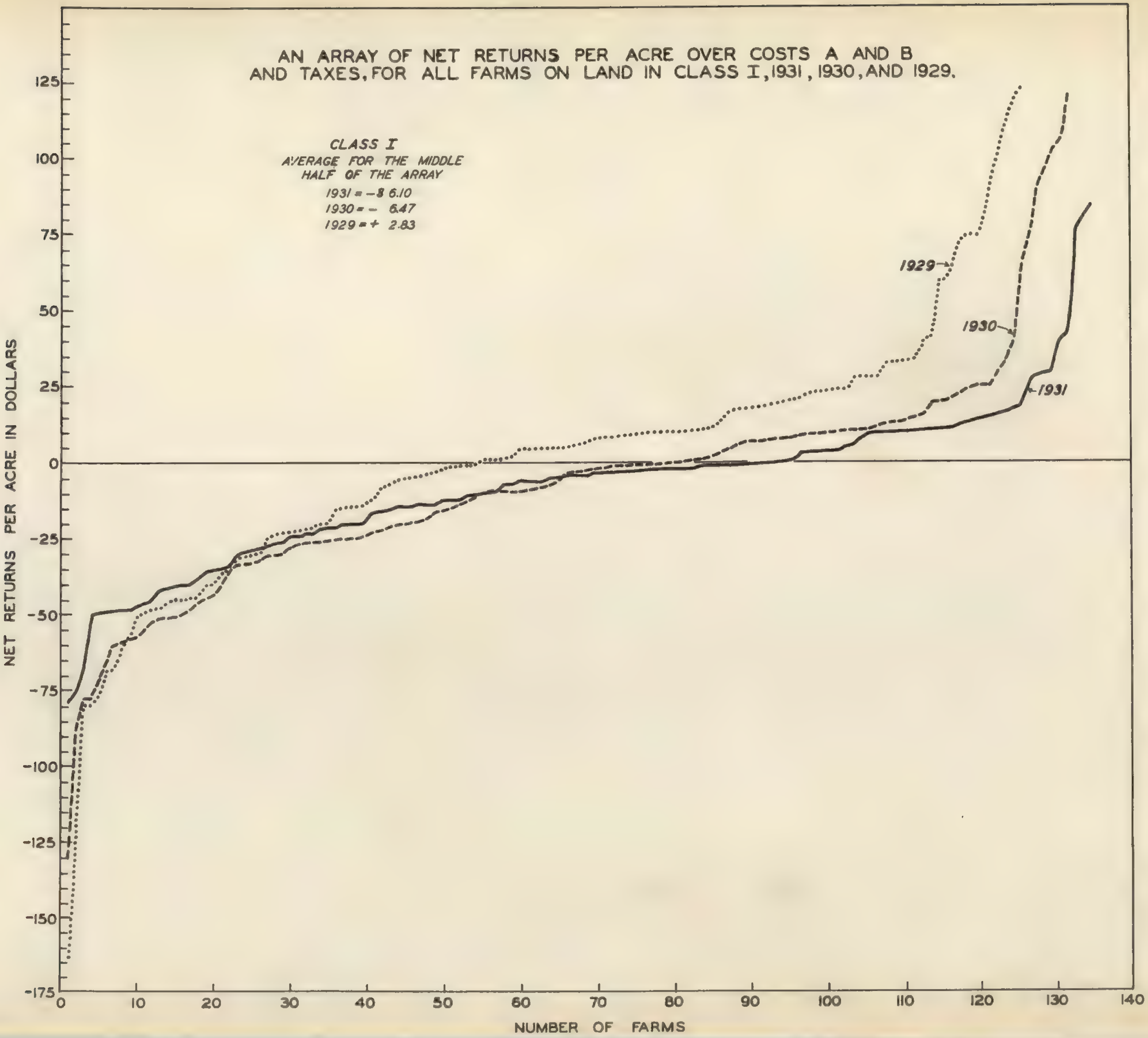
The tables presented in the preceding pages undertake to summarize and present in an understandable way the income and expense situation on a representative group of farms in the Merced Irrigation District for the years 1929, 1930, and 1931. One of the noticeable aspects of this, as of all studies including numerous individual farms, is the wide range of conditions and abilities shown. These farms show nearly all conceivable conditions; farms that are operated in an intensive way with large inputs of labor and expense, farms which either have only part of their acreage operated or possibly are being allowed to deteriorate through less than needed care, and, in a few cases, farms which are lying practically idle and show little of either expense or income except those expense items which go on regardless of whether or not the farm is operated. These conditions are reflected in a wide range of incomes per acre.

The efficiencies of the farmers, themselves, likewise vary a great deal. In some cases high expenditures accompanied by high returns per acre show considerable losses. In other cases moderate incomes and low costs may show some profit. Such differences invariably appear in studies involving many farms, and there is no way in which farms and farmers can be brought to a common level of efficiency, though the gradual settling down of an area, the elimination of the less efficient operators, and the more general adoption of the better methods and of the more efficient sizes of farm units, usually tends to bring about greater uniformity in the farming methods, returns, and expenditures. While such gradual standardization in methods and improvement in efficiency may well be anticipated over a period of years, it should not be assumed that any procedure or any length of time will make all of the farmers of any area as efficient as the best of those in such area. The most that can be hoped for is a gradual improvement

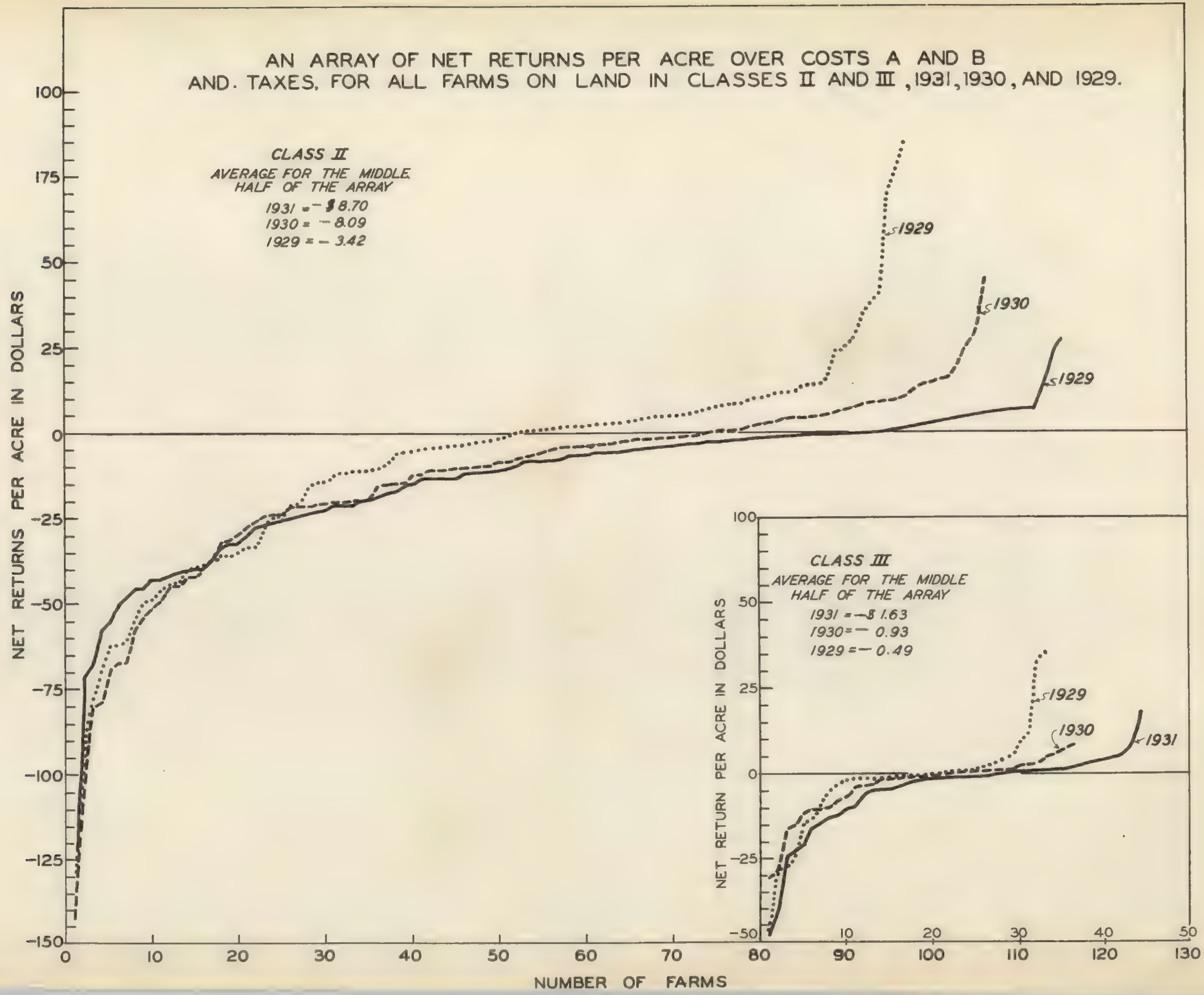
through education, imitation, and elimination which will bring more of them into the group showing some net income over costs. This same general observation applies, of course, also to Merced District.

In general, the more extreme situations both as to high net incomes per acre and high losses per acre are likely to involve rather abnormal situations which could not be duplicated over the area as a whole. For example, a few of the higher net incomes per acre are the result of certain types of semi-commercial activity which these farmers are engaged in and for which there is a limited demand. These do not necessarily depend on the quality of the land on which these farmers are located. It is not unusual, therefore, to find some comparatively large income on relatively poor land as well as on good land. On the other hand, the extremes in the matter of losses are apt to be due to unusual circumstances. For example, in 1932 certain of the efficient farmers made shipments involving extremely heavy per acre expenses for production and did not receive any net return from the product. This was due to the fact that sales price did not cover freight and selling charges. Such cases, of course, show a very heavy expense and a very heavy loss per acre. The more representative situation is to be found in the intermediate zone lying between these extremes, and in general this involves the larger number of the farmers and the greater part of the acreage. It represents more nearly what can be expected on a fairly widespread scale. In order that this may be more clearly visualized, graphs have been made showing the range of incomes over expenses on individual farms for each of the three years covered in the study. These are presented in charts I, II, and III.

The results shown indicate that the financial situation of farmers in the District was not altogether healthy even in 1929, though difficulties in the meeting of District assessments had not at that time become acute. A clear understanding of that situation requires consideration of a number of factors. It is



AN ARRAY OF NET RETURNS PER ACRE OVER COSTS A AND B AND TAXES, FOR ALL FARMS ON LAND IN CLASS I, 1931, 1930, AND 1929.


AN ARRAY OF NET RETURNS PER ACRE OVER COSTS A AND B AND. TAXES, FOR ALL FARMS ON LAND IN CLASSES II AND III, 1931, 1930, AND 1929.

clear that the adverse conditions created by the general agricultural depression have been aggravated by the fact that when the depression arrived the District had not yet adjusted itself to the changed conditions arising out of the construction of the irrigation system. While efforts to colonize were active immediately after the organization of the District, many of the new purchasers had not yet become well established on the land, much of the land was still held by non-residents, and some of the large holdings which, under normal conditions, would have become subdivided, continued to be devoted to extensive types of farming which could not earn the irrigation charges. The subdivisions made were in many cases not well suited to the most profitable types of operation, the units often were too small, and the lines of production probably not as well diversified as they should be.

In interpreting the 1929 figures some consideration needs to be given to the fact that one of the type groups shows a lower volume of production than would be usual for it. This is the group dependent primarily on peach production. The production of peaches was practically eliminated on many farms by the heavy frosts of that year. On the other hand, those growers who were able to save their crops received a very high return, the price per ton being one of the highest of recent years.

1930 was in some respects a more normal year than either 1929 or 1931. It probably represents in production a year somewhat better than the average. It was, however, a year of such unadjusted price conditions that it is a difficult year to use in computations since it represents neither conditions before the break nor anything approaching settled conditions after the break. Costs were still practically at 1929 levels. Prices, on the other hand, had taken very considerable drops of more than one-third.

The depression with its unprecedentedly low prices, together with the various influences which have caused uncertainty as to the ability of the District

to meet these irrigation charges, has made it impossible for many of the landowners either to develop their lands to a point at which they could be operated efficiently, or to dispose of their farms to others. This is particularly true of many non-resident owners who bought with a view to investing for a period of years and later taking a more active part in the operation of the farms, and also of those landowners who bought with a view to developing and reselling. Under present conditions in the District it is not easy to find tenants who are financially able to undertake the operation of farms requiring the heavy cash outlays necessary for the more intensive types of farming. Bank loans for the ordinary tenant are practically unobtainable without some backing other than that of his own resources and prospects. This situation accounts for some of the unoperated farms and for a number of those which, even though on fairly good land, are used only for pasture or are allowed to go into weeds, Bermuda grass, or Johnson grass. It is entirely possible that this situation might be considerably improved if a financial outlook for the District could be achieved which would lead to some marketability of its lands even though that be at very low prices. Land would then probably move more quickly into the hands of people suitably located and financially able to operate it efficiently, and thus to increase its earning power. Effective operation will usually be possible only to those living in the District or having well organized supervisory arrangements in the District. If land in the District can again be made marketable it is probable, therefore, that many parcels held by non-residents will gradually be sold into the hands of local people equipped to operate them and in this way sizes of farm unit will gradually become better adapted to the conditions in the District.

To describe an existing situation is one thing. To estimate a probable future situation is quite another, especially where prices and price relationships are concerned. No one can look into the future with any high degree of

certainty, and estimates of the future can be only on the basis of certain assumptions. But in a case where commitments for payments extending far into the future are concerned there is no choice but to attempt to foresee probable developments and make some decision with reference to them.

In physical matters it is possible in many cases to see ahead for some years with moderate certainty on the basis of certain trends in production, consumption, etc. For example, the curve of population growth over the last hundred years can be plotted, and fairly good estimates can be made of the population of the United States ten years or even twenty or thirty years from now. Or the flow of water in a stream can be measured for a long period of time, and a rather dependable estimate of future flows and their fluctuations can be made. But even the trend of the population curve may be altered by a change in immigration laws, a pestilence, or a change in attitudes toward marriage and the bringing of children into the world.

In the world of prices the changes are much more unpredictable. Group psychology plays a large part. International movements of gold and the ways of using gold as a base for credit are extremely important. Far-reaching necessary adjustments to changed conditions in the technique of production, as yet but dimly understood, affect our business and the volume and turnover of credit in ways which, as we have only recently seen, cannot be accurately predicted.

It is evident that during the period 1923 to 1929 a very large volume of credit and a high level of prices was maintained in relation to the world's gold supplies. This was due to many factors, too numerous and obscure to go into this report. Among them may be mentioned a much freer flow of international trade than now prevails, heavy lending in foreign countries by investors located in the United States. Considerable use by various countries of the gold exchange standard which does not involve direct convertibility of the country's money into

gold but instead convertibility into exchange on a country whose money is exchangeable for gold. Within this country business activity was proceeding at a rapid pace as various accumulated shortages from the war period were taken care of, new highways were built, and heavy expenditures were made for new factories, homes, etc. Most of these aids to the maintenance of a larger volume of credit and a higher level of prices have largely disappeared in the past three years along with certain demand and production conditions which either caused or accompanied them. The various nations of the world have developed the hoarding of gold to an almost unprecedented degree thus hampering world trade, by restricting imports on a scale not known to the world since more than a hundred years ago.

It seems likely that, barring extreme devaluations of money and widespread social changes, the level of prices will rise again only with slowly and painfully developed cooperation among the leading nations of the world, difficult and paralyzing readjustments in production, and the gradual renewal of confidence on the part of the people of the country.

The general level of wholesale prices in the United States stood at about 145 per cent of the pre-war level during the period 1922 to 1928 inclusive.[15]

This level has since declined to 93 per cent of the pre-war level (as of November, 1932). During the period 1922-1928, prices paid to farmers for farm products were, of course, at a somewhat lower level with reference to pre-war prices, their index being about 135 as compared to 145 for wholesale prices of all commodities. The index of farm prices has since fallen to 54 (November, 1932) as compared to the above-mentioned 93 for all commodities. The all-commodities index

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[15] See "The Agricultural Situation" issued by the United States Bureau of Agricultural Economics, for January, 1933, p. 23.

[illegible]

necessarily [illegible]. This [illegible]

[illegible]

homes, etc. [illegible] the maintenance of a large volume of [illegible]

[illegible] supply disappeared in the past three years

[illegible] conditions which [illegible]

[illegible] them. The various nations of the world have developed the [illegible]

[illegible]

[illegible] on a scale [illegible] to the world since more than a hundred years [illegible]

It seems likely that, barring extreme developments of many kinds and [illegible]

[illegible], the level of prices will rise again only very slowly and [illegible]

fully developed economically among the leading nations of the world, [illegible]

prevailing [illegible] in production, and the gradual renewal of confidence [illegible]

the part of the people of the country.

The general level of wholesale prices in the United States stood at about 140 per cent of the pre-war level during the period 1924 to 1929 inclusive.[15]

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[15] [illegible] Agricultural [illegible], February, 1933, p. 35.

This level has since declined to [illegible] per cent of the pre-war level [illegible] (November, 1932). During the period 1924-1929, prices paid to farmers for farm [illegible]

[illegible]

prices, their index [illegible] wholesale prices [illegible] commodities. The index of farm prices has since fallen to [illegible] (November, 1932) as compared to the above-mentioned [illegible] commodities. The all-commodities index

Table XLVI

General Trend of Prices and Wages*
(1910-1914=100)

Year and month	Wholesale prices of all commodities[1]	Industrial wages[2]	Prices paid by farmers for commodities used in--			Farm wages	Taxes[3]	Index numbers of farm prices, all groups
			Living	Production	Living production			
1910	103	--	98	98	98	97	--	103
1911	95	--	100	103	101	97	--	95
1912	101	--	101	98	100	101	--	99
1913	102	--	100	102	100	104	--	100
1914	99	--	102	99	101	101	100	102
1915	102	101	107	103	106	102	102	100
1916	125	114	125	121	123	112	104	117
1917	172	129	148	152	150	140	106	176
1918	192	160	180	176	178	176	118	200
1919	202	185	214	192	205	206	130	209
1920	225	222	227	175	206	239	155	205
1921	142	203	165	142	156	150	217	116
1922	141	197	160	140	152	146	232	124
1923	147	214	161	142	153	166	246	135
1924	143	218	162	143	154	166	249	134
1925	151	223	165	149	159	168	250	147
1926	146	229	164	144	156	171	253	136
1927	139	231	161	144	154	170	258	131
1928	141	232	162	146	156	169	263	139
1929	139	236	160	146	155	170	267	138
1930	126	226	151	140	146	152	266	117
1931	107	207	129	122	126	116	--	80
1932								
January	98	191	--	--	118	98	--	63
February	97	189	--	--	116	--	--	60
March	96	189	115	112	114	--	--	61
April	96	183	--	--	113	94	--	59
May	94	177	--	--	112	--	--	56
June	93	174	111	109	110	--	--	52
July	94	171	--	--	109	87	--	57
August	95	173	--	--	108	--	--	59
September	95	177	109	106	108	--	--	59
October	94	177	--	--	107	84	--	56
November	93	171	--	--	106	--	--	54

* United States Bureau of Agricultural Economics, Washington, "The Agricultural Situation" for January, 1933, pp. 23 and 24.

[1] Bureau of Labor Statistics. Index obtained by dividing the new series 1926=100, by its pre-war average, 1910-1914, 68.5.

[2] Average weekly earnings, New York State factories. June, 1914=100.

[3] Index of estimate of total taxes paid on all farm property, 1914=100.

includes agricultural products, and the prices of non-agricultural commodities are therefore higher than those indicated for the all-commodities level. The level of prices paid by farmers for commodities used in living and production had declined by 1930 to 146 per cent of their pre-war level, in 1931 to 1926, and in November, 1932 had reached a level of 106. Farm wages (for the United States) had come down by 1930 to a level of 152 per cent of pre-war, in 1931 to 116, and by November, 1932 to 84 per cent. (For the convenience of the reader page 23 of the Agricultural Situation issued by the United States Bureau of Agricultural Economics for January, 1933 is reproduced as Table XLVI.)

Having before us the picture as above presented, the question is, what can be regarded as a reasonable prospect for the future? The 1932 business on these farms, while not specifically covered in this survey, is known to have resulted in large operating losses on nearly all of the farms even though District assessments not be included in the costs. Costs, especially those for labor, had been lowered in 1932 as compared to 1931. Labor costs were down by as much as 20 to 25 per cent; other types by smaller percentages; some not at all. But prices for the principal products of the District, as a weighted average, had declined in 1932 to more than 30 per cent below the levels of 1931. It seems reasonable to expect some improvement in prices and some adjustments in costs which will place the farmer in a better position than that which prevailed in 1932. Prospects for 1933 do not appear materially different from those of 1932. It would seem reasonable, however, to expect sufficient price improvement and cost adjustment over a period of years ahead to bring the farmers of the area to as good a net-earnings position as that of 1931. In view of the considerations pointed out in discussing the general price situation (pp. 28-34) price advances materially in excess of that so indicated do not seem probable in the years immediately ahead, except as extreme and wholly unpredictable developments such as wars or extensive monetary changes may occur. If the general view indicated above be accepted it appears reasonable to think in terms of the 1931 earnings situation as compared to that of 1929 in arriving at an adjustment of the District's indebtedness. These are shown on page 122 and in the figures on pages 111 and 112.

As a further basis of adjustment it is believed that the following general conclusions from the study are warranted:

1. That the farmers of the District whose holdings are principally made up of Class I land and who had developed their holdings to something near their full producing capacity would in general have been able to carry on with the income and tax levels of 1929. The data gathered in this survey do not, however, disclose a large number of farmers, even on Class I lands, who have their holdings developed to a high percentage of their possible productive capacities. Considering the Class I lands as a whole,

they were not, in 1929, earning a net amount sufficient to cover District assessments, but there appeared to be sufficient confidence in their future development to induce inputs of funds (from sources outside the District, from wages and salaries, and from savings) sufficient to cover most of the assessments not earned by the lands. The financial histories of many of the farmers visited in the survey (not reproduced in this report) show considerable amounts of outside funds still being invested in 1929. This is, of course, the usual situation in young districts.

The survey indicates that rather large additional inputs of capital will be necessary to bring even the Class I lands into the fullest possible production. Some doubt exists, however, as to whether the demand for agricultural products will warrant, even in many years to come, very much further development along the most intensive lines; that is, of plantings of trees and vines. It seems more likely that further development will be along such semi-intensive lines as alfalfa and dairy production and in the form of better organization and more economical operation of the farms.

Some doubt exists as to the ability of farmers on Class II lands, even if such land were fully developed, to carry on successfully on the basis of the income and tax levels of 1929. It seems clear, however, that, as to Class III lands, the tax levels of 1929 would be excessive even with the price level of that year.

2. That, in view of the general outlook in agriculture, the needed additions to improvements, readjustments in sizes of holdings to give more economic farm units, and changes in types and methods of farming which will give higher yields are not likely to be rapid even on farms already developed or in process of development. As to the larger acreages which are still being extensively farmed, the changes needed to give them an earning capacity sufficient to pay substantial charges for water are likely to take place even less rapidly, both because of the present and prospective lack of demand for more lands for agricultural production and because of the large capital expenditures necessary for putting these holdings into the more intensive types of agriculture.

3. That whatever the level of prices, the basic factor in the ability of an irrigation district to pay for water lies in the ability of its lands to produce income in excess of essential items of cost. The land classification by Mr. Cone has given the first segregation of the lands of the District based on relative earning capacities. With a classification of 100 per cent representing the two most important soil types of the District when considered from the standpoint of fertility and range of crop adaptability, Mr. Cone found that 22 per cent of the entire irrigable area (38,607 acres) is in Class I, 31 per cent (52,151 acres) in Class II, and 47 per cent (80,852 acres) in Class III.[16] In view of the careful manner in which the classification was made and the long experience which Mr. Cone has had with the lands of the District and with their relative productivities, it is believed that the classification sets forth with reasonable accuracy the character of the land.

4. That if the farmers of the District are to continue with their present farming programs and are to be encouraged to go forward with the improvements which are essential for stabilizing their positions, there must be some substantial reduction in the fixed charges which they are compelled to pay.

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[16] The acreage in each one of the soil grades was found by Mr. Cone to be as follows, the land with a percentage classification of 85 up being put in Class I, 60 to 85 in Class II, and under 60 in Class III.

150%	1,246	60%	14,904
125	2,045	55	510
120	1,776	50	14,459
110	531	45	211
100	25,205	40	19,015
90	5,062	35	8,343
85	2,742	30	13,154
80	12,973	25	7,317
75	8,655	20	14,250
70	11,205	15	3,593
65	4,414	Total	171,610

Presumably there will be some reduction in the amounts of county taxes and in certain other relatively rigid types of expense. Interest payments on private debts have not been included in the computations shown. Where these cannot be met there will be, as in the past, foreclosures and changes of ownership. This is resulting in a gradual reduction in the private debt load and in interest payments on its account, but will not affect the District assessment situation except in so far as it may affect adversely the quality of operation of the farms.

The following summarization of various phases of the factual material developed in the survey indicate more fully the bases on which the above conclusions rest: The results for 1929 show 54 out of 126 farms (43 per cent)

on Class I lands with returns less than sufficient to cover their cash expenses for supplies and labor, their county taxes, and a going rate on the family labor used. Numerous individual cases encountered showed considerable inputs of money not earned by the lands. Somewhat offsetting this is the fact that some of the acreage was undeveloped or in process of development and that some of the operating expense could, therefore, be regarded as capital investment. The earning situation was also affected by the fact that certain of the crops, particularly those in Group I suffered from frost in that year. The effects of this should not be completely discounted, however, since it is a condition which tends to recur in greater or less severity at intervals.

With regard to the view that the conditions of 1931 represent a reasonable expectation for the years immediately ahead, there is, of course, much less of factual basis to go on. Conditions for 1933 will almost certainly be little better than those for 1932, unless there should be some major development not now foreseeable. Conditions beyond that point are predicated largely upon the course of events that has been characteristic of the later years of previous major depressions.

The price changes over the past few years for the District's principal crops will give some perspective as to the present price situation for these crops. Considering the period 1910-14 as 100, the weighted state average of prices paid to farmers for the principal crops grown in the District stood at 152 per cent in 1929. By 1930 it had come down to 97.9, and in 1931 to 79.4. By 1932 these prices were down to 55.2, a level so low that it seems likely to make forcible curtailment of some of the production both within the District and elsewhere, and possibly thus to operate as a means of improving prices somewhat but at the cost of reduced volumes. Substantial tonnages both of fruits and of truck crops in the District went unharvested in 1932 even after the expense of producing them up to the harvest period had been incurred. It will be noted,

however, that for prices to regain the 1931 levels would require an advance from 55.2 per cent of the 1910-14 base to 79.4, a general advance of 44 per cent over the 1932 prices.

If prices do not rise materially costs will undoubtedly be brought to still lower levels, but probably only slowly. Wages of farm labor have, in 1932, declined from a rate of 25 cents per hour in 1931 to 20 cents and in many cases to 15 cents (without board or lodging). It may be questioned, however, if labor can be secured at these rates when industrial activity revives. Commodities purchased by farmers for use in production stood at 146 per cent of pre-war in 1929, and had dropped to 140 in 1930, to 122 in 1931, and to 106 by October, 1932. One can only say that it will require substantial improvement in conditions for them to reach a situation as good as that of 1931. There is little real evidence on which to base a judgment as to what average they will attain for the next ten or twenty years.

Charts I, II, and III show graphically the net incomes per acre over costs A, B, and D, by farms, for the years 1929, 1930, and 1931 arranged in order of their size from left to right, the lowest being at the left. It will be seen that the largest variations occur at the two extremes whereas there is a middle section in which the lines run more nearly parallel. If the upper 25 per cent and the lower 25 per cent are eliminated, we have in the middle 50 per cent something approximating what the representative farm is doing and what can reasonably be expected of the bulk of the farmers. The incomes for the middle 50 per cent have accordingly been averaged for each of the years and for each class of land.

The declines in income (averages for the middle halves of the arrays) are as follows:

For Class I lands:

From 1929 to 1930 -- $9.30 per acre
" 1929 to 1931 -- 8.93 " "

For Class II lands:

From 1929 to 1930 -- $4.67 per acre
" 1929 to 1931 -- 5.28 " "

For Class III lands:

From 1929 to 1930 -- $0.44 per acre
" 1929 to 1931 -- 1.14 " "

If depreciation is included the declines in the return over A, B, C, and D costs are as follows:

For Class I lands:

From 1929 to 1930 -- $6.64 per acre
" 1929 to 1931 -- 7.46 " "

For Class II lands:

From 1929 to 1930 -- $6.06 per acre
" 1929 to 1931 -- 6.68 " "

For Class III lands:

From 1929 to 1930 -- $0.71 per acre
" 1929 to 1931 -- 2.47 " "

Under the assumptions made, depreciation, any returns on the value of the land, and any requirement of interest necessary to induce farmers to carry on, must come out of the income allowed for family labor, out of greater savings in cash expense than those indicated, or must be covered through a higher price basis than that assumed.

Taking the relationship between net returns over costs A, B, and D, as shown for Class I lands, the difference between 1929 and 1931 (average for the middle half of the range) is $8.93 per acre. Certain modifications of this

should be made though their amounts are problematical. One of these is in the charge for county and school district taxes. The average of these for the Class I lands in the sample is $3.93 per acre. Very widespread efforts are being made to reduce taxes on property. Accomplishments along this line are slow and often disappointing in amount. It seems not unreasonable, if prices remain at low levels, to look forward to a downward adjustment of county and school district taxes which would amount to as much as 25 per cent of the amounts levied in 1931. Preliminary reports from Washington indicate that the 1933 tax levies on farm property are down about 20 per cent over the country as a whole. If county taxes are adjusted downward by as much as 25 per cent, this will lessen the charge on the Class I lands by approximately one dollar per acre. Such a possible saving is contingent, however, upon the state finding ways to balance its budget without resort to an ad valorem property tax; since any tax on property levied by the state would offset by so much savings achieved locally.

That the difficulties which have been encountered are not confined to District affairs is shown by similar heavy delinquencies in county taxes. There is prospect that some of the schools will have to close early because of lack of funds. For example, delinquency in the Cressey School District was 50.8 per cent on January 1, 1933, that in Farmdale District, 48.8 per cent, in Jordan District 45.1 per cent, and in Whitmer 28.1 per cent. Others are not so high but still show disturbingly large delinquencies. There are many evidences that the money to meet obligations is not available and cannot be raised except as conditions improve very substantially.

Another consideration which needs to be recognized is that both incomes and expenses in 1931 were somewhat affected by water shortage. This is extremely difficult to allow for because it appears not only in reduced output but in extra expense for pumping water. The lessened production appears to be largely in alfalfa since the District's water supply did not run out until the first of July from which time many of the major crops would be able to develop without additional water. Reduced yield of this type is partly offset by the fact that 1929 production was somewhat decreased but in a different way and from a different cause; namely, frost damage. Further consideration will need to be given to this phase of the problem since the records available from the survey do not afford very definite information concerning it.

In the case of lands in Class II the charge (average for the middle 50 per cent) is $5.28 per acre. These lands represent for the most part somewhat less

settled types of farming than most of those in Class I. They probably face the necessity for somewhat more extensive readjustments in crops, sizes of unit, etc. before they will be in settled operation. It would seem logical to apply to these lands in Class II ratings for purposes of District assessment that would be approximately in the proportion that the Cone survey gives to these lands as compared to the lands in Class I.

The lands in Class III may be regarded as little suited to anything but pasture, rice, and other small grains, and their abilities to pay District assessments can be more definitely ascertained than for either of the other two classes. These abilities are reflected in the summaries shown for pasture, barley and rice lands. Earning powers in these cases are more directly dependent upon prices of the products than in the other cases, since expense is a less important item. Rentals from pasture lands are not likely to rise substantially or quickly. Any sharp increases in the prices for rice and barley would affect rentals for these lands materially so far as percentage changes are concerned. The lands have good producing ability for these purposes, but neither type of production can be carried on and show any substantial return over cash costs at present prices. For the lands in this class, the decrease in per acre net return between 1929 and 1931 was $1.14 per acre. County and local tax on these lands amounted, in 1931, to about $1.61 cents per acre. If these taxes are modified as discussed under the section on lands in Class I, the amount of such adjustment would be about $ .40 per acre. Except in the case of rice the earnings and expenses on these lands were less affected by the water shortage of 1931 than were those on Class I lands.

The report here presented will appear, to most readers of it, a very dark picture. It would be much more satisfactory to the writer if a more cheerful prospect could be shown. It is necessary, however, to recognize that we are passing through one of the most widespread and drastic financial readjustments in the world's history. Obligations assumed by various nations, which at the time the agreements were made seemed manageable, have since proved to be impossible of fulfillment. Mortgage foreclosures by agencies lending on farm mortgages have assumed wholesale proportions throughout the country, even where no irrigation enterprises with their attendant high fixed charges have been undertaken. Such mortgages were in most cases on a basis of 50 per cent or less of the values of these farms at the time the loans were made. It is now in nearly all cases impossible to sell the foreclosed farms at anything approaching the amounts originally loaned on them.

Farm Number______

Name__________________________

Address________________________

Predominant Soil Type (________

(________

Predominant Crop Grown_________

Acres in ________________ ______

________________ ______

________________ ______

________________ ______

________________ ______

Total acreage of farm ______

Legal description of land_______

____

Family labor available (months)_
(No. months hired labor which
would be necessary to replace)

Sex	Age

Investment:

	Date Built	Cost	Present Value	Annual Depreciation
Dwellings:				
Owners		$	$	$
Tenants				
Garage				
Barns:				
Dairy				
Milking Shed				
Shelter Shed				
Calf Barn				
Silos				
Milk House				
Hay				
Poultry				

Investment (Con't)	Date Built	Cost	Present Value	Annual Depreciation
Sheds:				
Fruit				
Sulphur				
Huller				
Machine				
Shop				
Other Buildings:				
Fencing				
Water Supply Equipment				
Pumping Plant				
Windmills & Tank				
Pressure System				
Wells:				
Domestic				
Irrigation				
Pipe lines:				

Remarks:

Farm Machinery:	No.	Date Bought	Purchase price	Present Value	Annual depreciation
Wagons					
Plows					
Discs					
Harrows					
Scrapers					
Cultivators					
Planters					
Mowers					
Rakes					
Hay press					
Hay loader					
Hay stackers					
Silage cutter					
Spreaders					
Milking machine					
Cream separator					
Milk cooler					
Sterilizer					
Miscellaneous dairy supplies					
Spray outfits					
Brush burner					
Subsoiler					
Huller					
Heaters					
Tank wagon					
Ladders					

Farm Mach.(Con't)	No.	Date Bought	Purchase price	Present Value	Annual depreciation
Corn Binder					
Drills & Seeders					
Minor farm equipment:					
Lug boxes					
Trays					
Small Tools & Miscellaneous					
Power equipment:					
Automobiles					
Trucks					
Tractors					
Gas engines					
Electric motors					
Harness					

Livestock:	No.	Value
Horses		
Mules		
Dairy cattle:		
Cows, mature		
Heifers, 2 yr.		
Heifers (6mo-2yr)		
Calves		
Bulls		

Livestock (Con't)	No.	Value	
Other cattle:			
Hogs:			
Sows and Boars			
Feeders			
Pigs			
Sheep:			
Ewes and rams			
Lambs			
Poultry:			
Chickens			
Turkeys			
Other Livestock:			

Land Improvements:	No. Acres	Cost per Acre	When Done
Levelling, ditching, checking, etc.			

	Cost per Acre	When Planted	Condition
Trees (kind)			
Vines			
Alfalfa			

[illegible]	[illegible]	[illegible]	

	1931			1930			1929		
Expenditures:	Amt.	Rate per Unit	Total Cost	Amt.	Rate per Unit	Total Cost	Amt.	Rate per Unit	Total Cost
Taxes (except M.I.D.)									
Automobile & Truck									
Insurance:									
Fire									
Compensation									
Auto & Truck									
Feed Purchased:									
Hay									
Concentrates									
Repairs:									
Machinery									
Buildings									
Fences									
Supplies:									
Fertilizer									
Seed									
Spray Material									
Dust & Sulphur									
Rodent poison									
Electric power									
Boxes-shipping									
Sacks									
Twine									
Wire									

Expenditures(Con't)	1931			1930			1929		
	Amt.	Rate per Unit	Total Cost	Amt.	Rate per Unit	Total Cost	Amt.	Rate per Unit	Total Cost
Supplies (Con't)									
Gasoline									
Lub. Oil									
Smudge oil									
Small tools									
Labor hired:									
Day labor:									
Special labor:									
Board of Laborers: (months)									
Cow Testing									
Livestock bought									
Rental on pasture off the farm									
Baling expense									
Hauling to market									

	1931				1930				1929			
	Ac	Total Sales	Unit Val.	Tot Val	Ac.	Total Sales	Unit Val.	Tot Val	Ac.	Total Sales	Unit Val.	Tot Val
Income:												
Peaches:												
Fresh												
Canning												
Drying												
Grapes:												
Table												
Raisin												
Juice												
Figs:												
Fresh												
Canning												
Drying												
Apricots:												
Fresh												
Canning												
Drying												
Almonds:												
Nuts												
Meats												
Walnuts												
Olives												
Prunes												
Alfalfa												
Other Hay												
Cotton												

	1931				1930				1929			
Income (Con't)	Ac	Total Sales	Unit Val.	Tot Val	Ac.	Total Sales	Unit Val.	Tot Val	Ac.	Total Sales	Unit Val.	Tot Val
Corn												
Rice												
Oats												
Barley												
Wheat												
Tomatoes												
Sw.Potatoes												
Beans												
Watermelons												
Cantaloupes												
Onions												
Peppers												
Livestock & Livestock products												
Cows sold												
Other cattle sold												
Hogs												
Poultry												
Sheep												
Creameries Sold to												
Market milk												
Mfg. milk												
Cream												
Eggs												
Wool												

	1931				1930				1929			
	Ac	Total Sales	Unit Val.	Tot Val	Ac	Total Sales	Unit Val.	Tot Val	Ac.	Total Sales	Unit Val.	Tot Val
Income from work off the farm: Operator's family												
Operator's												
Hired laborers												
Sales, pasturage												
Misc. Income												

Merced Economic Survey Last page________

Other obligations owed by farmer	Owed to	Amount	Date Given	Date Due	Int. Rate	For What Contracted	Extent payment in Arrears
Mortgage debt______							
First mortgage______							
Second mortgage______							
Third mortgage______							
Chattel mortgage______							
______							
______							
Bank							
______							
______							
Store							
______							
Other							
______							
______							

Amounts borrowed for current production		1929	1930	1931
From whom,	______	$______	$______	$______
on what	______	______	______	______
security	______	______	______	______

	District Assessment	County Assessment	
Assessed Value	Land $______	Real Estate $______	Personal $______

Taxes delinquent:	When delinquent	Amount
County	______	$______
District	______	______

Name____

Description____________________________ Acreage________________

Assessment Number		1931		1930		1929	
	Assessed Value 1931	Tax Levied	Delinquency	Tax Levied	Delinquency	Tax Levied	Delinquency
R. E.							
Imp.							
Special							
Pers. Prop.							
M. I. D. TAX							

[illegible]							
[illegible]							
[illegible]							
[illegible]							
[illegible]							
	[illegible]						
[illegible]		[illegible]		[illegible]		[illegible]	

[illegible] ______________________ [illegible] ______________________

[illegible] ______________________

APPENDIX B

Basis of Classification Used in Grading Farm Lands Included in the Economic Study of the Merced Irrigation District

(As developed by J. S. Cone and R. L. Underhill)

Class One -- 85 per cent and above.

I. Soils showing highest production and largest crop range.

  A. Land lying along and adjacent to Mariposa and Bear Creeks, and to a much lesser extent along Duck Slough, Owens Creek, Black Rascal Creek, and Merced River.

  B. The best grades of sandy type soil in the Livingston-Arena-Winton districts.

  C. Loam soils in Tuttle and McSwain districts.

II. Chief characteristics of class one:

  A. Good depth of rooting zone. In general from four to eight feet, but sometimes with occasional small areas of hardpan or heavy clay closer than four feet.

  B. Freedom from alkali strong enough to be injurious to crops.

  C. Good drainage with proper care by owners and by Merced Irrigation District.

  D. Wide range of crops usually grown in Merced County.

  E. Soils that will take irrigation water readily.

  F. Good topography.

Class Two -- 60 to 80 per cent inclusive -- Soils showing fair production and crop range, and generally free from injurious alkali.

I. Heavy loam soils, mostly east of an imaginary line, running north and south about three miles west of Merced.

  A. Depth to hardpan or heavy clay averaging more than three feet but with some small areas less than three feet.

  B. Soils which require extra care in irrigating and very careful leveling on account of imperviousness to water.

  C. Soils which have been injured to some extent from high water table.

  D. Generally good topography.

E. Crop range more restricted than on soils adjacent to the Creeks.

II. Sandy or sandy loam soils in the Atwater-Livingston-Amsterdam areas and in that portion of the Merced Irrigation District north of the Merced River.

  A. Irrigable, but land so undulating that best results from irrigation cannot be had.

  B. Productive sandy land, but with considerable wind hazard.

  C. Top soil apparently good, but which cements badly from irrigation.

  D. Heavier grades of sandy loam soil, with hardpan found frequently at from two feet to four feet.

  E. Lands of wide crop range, but reduced crop yields, because of --

    1. Over-cropping in past to a point of considerable soil depletion.

    2. Presence of nematodes to such an extent that certain field crops and several of the deciduous fruit trees are seriously affected.

    3. High water table.

Class Three -- under 60 per cent.

I. Marginal crop areas, found on practically all boundary areas of the District and in the troughs between streams. Speaking generally, class three is not adapted to irrigated farming on tracts of 80 acres or less. This type is characterized by --

  A. Heavy, tight and/or shallow soils.

  B. Light blow sand.

  C. Alkali to an injurious extent.

  D. Rough topography.

  E. Poor drainage.

II. Principal soil types in class three.

  A. Heavy clay and adobe soils on eastern boundary, particularly east of Planada.

  B. Heavy or tight, shallow, undulating areas in the general vicinity of Lake Yosemite.

  C. Rough land north of Merced River.

  D. Light blow sand in the southwestern portion of the District.

E. Heavy alkaline area in the south part of the District.

F. Rice land area south of Merced, including land of similar nature, not zoned for rice on account of proximity to improved properties.

G. Reddish, hardpan soils east of Cuba.

H. Heavy, tight soils in the troughs between streams running in a generally east to west direction through the District. This type of soil frequently carries injurious alkali.

III. Adaptability:

A. Poor irrigated farming for crops other than rice and grain or forage for pasture.

B. Fair to good rice and grain land.

C. Pasture from fair to excellent.

D. Dry farming grain land on areas too undulating for practical irrigation.

E. Large acreage dairy farms, where perhaps 25 per cent of the land will raise alfalfa, the balance to be used for natural pasture with Bermuda or Salt Grass.

Table

Land Qualities of the Farms from which Records were Secured
(As indicated by the indexes of quality developed by
J. S. Cone and R. L. Underhill)

	Group I (85 and over)				
Index of land quality	Schedule number	Index of land quality	Schedule number	Index of land quality	Schedule number
150	2	100	260	100	231
150	128	100	12	100	91
150	234	100	264	100	133
140	135	100	8	100	256
125	320	100	153	100	247
125	13	100	169	100	75
125	110	100	315	100	35
125	158	100	112	90	162
125	64	100	219	90	323
125	11	100	242	90	23
120	72	100	208	90	22
120	21	100	154	90	18
120	131	100	113	90	61
120	258	100	245	90	313
120	147	100	93	90	257
115	221	100	89	90	176
115	132	100	86	90	220
115	187	100	189	90	60
115	285	100	109	90	212
115	267	100	243	90	210
110	82	100	227	90	51
110	124	100	66	90	116
110	3	100	241	90	172
110	125	100	255	90	97
110	188	100	134	90	200
110	30	100	205	90	17
110	149	100	10	90	65
110	204	100	259	90	9
110	286	100	130	90	163
110	34	100	150	90	83
110	136	100	217	90	287
100	108	100	127	90	206
100	279	100	171	90	198
100	25	100	140	90	316
100	302	100	249	90	98
100	226	100	186	90	284
100	193	100	14	90	209
100	129	100	195	90	213
100	238	100	26	85	321
100	236	100	118	85	96
100	95	100	117	85	271
100	297	100	33	85	298
100	218	100	5	85	268
100	244	100	105	85	63
100	215	100	79	85	156
100	152	100	84	85	16
100	157	100	296	85	159
100	240	100	294		

Group II (60 - 80)

Index of land quality	Schedule number	Index of land quality	Schedule number	Index of land quality	Schedule number
80	318	75	225	65	73
80	310	75	248	65	194
80	246	75	24	65	230
80	261	75	233	65	29
80	235	75	58	65	144
80	82	75	26	65	76
80	123	75	59	65	52
80	32	75	106	65	174
80	211	75	197	65	36
80	31	75	51	65	43
80	7	75	216	65	74
80	214	75	15	65	170
80	201	75	69	65	51
80	49	75	56	65	80
80	122	70	280	65	4
80	295	70	281	65	139
80	266	70	275	65	224
80	229	70	322	60	177
80	55	70	168	60	1
80	92	70	254	60	324
80	263	70	46	60	319
80	190	70	237	60	311
80	53	70	203	60	312
80	85	70	141	60	277
80	81	70	265	60	239
80	119	70	253	60	291
80	68	70	185	60	126
80	28	70	54	60	41
80	20	70	202	60	27
80	38	70	250	60	19
80	62	70	274	60	151
80	183	70	300	60	142
80	37	70	107	60	228
80	94	70	182	60	232
75	115	70	44	60	146
75	207	70	57	60	45
75	121	70	301	60	165
75	148	70	223	60	160
75	179	70	252	60	78
75	71	70	251	60	39
75	145	70	48	60	137
				60	262
Group III (under 60)					
55	138	50	288	40	161
55	50	50	289	40	184
55	314	50	199	35	143
50	283	50	111	30	282
50	278	45	173	30	47
50	40	40	42	30	276
50	90	40	292	30	181
50	88	40	293	30	184
50	299	40	70	30	317
50	178	40	67	30	180
50	87	40	273	25	155
50	175	40	99	25	167
50	164	40	6	20	290
50	196	40	120	20	166
50	192	40	191		
50	272	40	222		

APPENDIX C

Bases Used in Computing Investment and Depreciation

Investment

The investment is regarded as being that of January first of each year, that shown by the survey being that of January 1, 1932, except for adjustments to allow for purchases or sales of equipment or livestock made during 1932. Changes of this kind in 1932 are very minor. Investment in each of the preceding years is computed by adding the depreciation charged and subtracting the value of purchases made in the year considered. Investment will include the following types of items:

1. Land: The value of raw land is to be left for determination on the basis of the negotiations and on the relationships arrived at in the survey by Mr. Cone and Mr. Underhill.
2. Land Improvements: Land improvements are grouped in two classes:
    (1) Improvements requiring more or less continuous maintenance and eventual replacement. In this class come (a) buildings, (b) fencing, (c) leveling, checking, etc. which must be repeated from time to time in the normal course of the farm's operation, (d) expenditures for establishing orchards, vineyards, alfalfa fields, and pipe lines.
    (2) Improvements which, once made, do not require repetition. In this class are such improvements as the original leveling of rough land.

Bases for Valuation and Computation of Depreciation

The straight line method of depreciation has been used throughout in the case both of plantings and of equipment. Depreciation really occurs according to some more complex form of curve. However, since both plantings and equipment of nearly all ages are to be found in the sample, a depreciation which would account for the total value over the life of the planting or piece of equipment

has seemed reasonably in accord with the general facts of the situation and is much simpler.[1] Valuations at the time plantings come into bearing are regarded as conservative in all cases. The period over which depreciation is taken is, however, to some extent affected by risk and obsolescence which have proved to be of some importance in the District owing to the fact that it is not yet fully settled down as to its type of production.

The depreciation bases and production figures used are based upon what seemed to be the best obtainable concensus of opinion by well informed people and checked by such official records as could be secured. (The production figures have not been used in this study since actual returns have been used. They are presented merely for such interest as they may have for readers of the report.) Among those counseled with concerning these rates were Mr. L. W. Fluharty and Mr. Arthur Shultis of the Agricultural Extension Service, Berkeley; Mr. J. S. Cone, H. B. Stoddard, Wm. H. Alison, Jr., and others at Merced; Mr. Ward Minturn and Milo Rowell of Fresno; and Mr. F. P. Nutting of San Francisco. In addition, the records available at the University, the records of the State Federal Crop Reporting Office, and of some of the merchandising agencies were consulted.

Rules Set Up for Computation of Investment and Depreciation

1. Farm Buildings: Use actual cost if available. If not, give approximate age and assume the building to have been built at costs prevailing in 1920-30. For buildings built before 1920, estimate cost to build in period 1920-30 as original cost will ordinarily not be known. (In most of the cases, landowners were able to give estimates of the values of buildings.)

   Depreciation on buildings is computed at 4 per cent. If a build-

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[1] In the case of trees of various kinds, more detailed estimates of the rates of decline are to be found in the mimeographed reports on the various efficiency studies by the farm management specialists of the University of California.

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> [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

ing is more than 25 years old it is assumed to have become valueless and is not included in the investment. Wells and pipe lines: 2½ per cent for depreciation and obsolescence. Windmills and tank houses: 4 per cent.

2. Fences: Original cost is computed on the following bases: For ordinary 4-wire fence 85 cents per rod new. This includes one gate for each 100 rods, braces, staples, etc. (Materials for construction of such fencing at this date, 9-30-32, cost 70½ cents per rod where 4 x 5 redwood posts are used. Labor of building is figured to require the additional 14½ cents. Some of the fences have only three wires, and a few use lighter posts, but the specifications indicated above are the usual ones.)

   Hog-tight fence consisting usually of woven wire with two barbed wires above is figured at $1.25 per rod, new value. About 10 per cent of all the fencing in the District is estimated to be hog-tight fence.

3. Farm Machinery: (including gasoline engines and harness) allow 10 per cent on new value.

   Tractors, automobiles, and trucks, 12½ per cent.

   Electric motors, 5 per cent.

4. Minor Equipment:

   Sweat boxes, 10 per cent.

   Trays, etc., 20 per cent.

   (Milk pails and cans, small tools, etc. included in annual charge for miscellaneous expenses.)

5. Orchards:

   (a) Peaches: The average peach orchard will carry itself, under usual conditions, in the fifth year. The useful life of the tree is about 15 years. Production gradually increases from the fifth to the ninth year, is at its peak from the ninth to the fifteenth year, and gradually decreases thereafter. After the twentieth year the average orchard

no longer pays. A good yield for the 15 years (for Cling peaches) is 6 tons per acre or 90 tons total, and the average grower will make about 5 tons average or 75 tons for the life of the orchard. A survey by the Peach and Fig Growers Association made in 1920 showed average production for the San Joaquin Valley as follows: Freestone peaches, 5½ tons; Clingstone peaches, 7¼ tons. This, however, does not take into account the frost damage of certain years. These figures assume very little fertilizer used which is the usual case in the Merced area.

To compute depreciation: Regard inputs to orchards under five years old as capital investment; that is, show both as expense and increased value of the land. For orchards of five years or over, figure cost at five years to be $225 per acre. Charge off one-fifteenth of this each year for the next fifteen years. For purpose of computing value of the trees as a land improvement use cost indicated above minus depreciation to date.

(b) Apricots: Estimated time required to bring into bearing 5 to 7 years. Productive life 20 years. For 16 crops out of 20 years, 14 tons of dried fruit would be considered very good. If fresh fruit, for 16 crops, 70 tons.

To compute depreciation: Use a cost at 6 years of $250 per acre. Depreciate at rate of one-twentieth each year.

(c) Grapes: To come into bearing takes three years. Can expect a good crop in fourth year. Thompson vineyard will last 25 years thereafter. Average production about one and one-fourth tons dried or five tons green. 1930 regarded as about normal. Malagas and juice grapes will average 4 tons. Yields will run a little higher when

prices are higher.

To compute depreciation use the following formula: Figure value in fourth year at $210 per acre. Depreciate at rate of one twenty-fifth for each year.

(d) Almonds: Should pay their way in the sixth year and be in full bearing in the tenth year. Should have 30 years of productive life. About one crop out of four is lost where orchards are not heated. An average yield over the 23 years would be 700 pounds; on good land 1,000 pounds; on poor land or with poor care 400 pounds; state average yield 300 pounds. Frost hazard is comparatively large.

To figure depreciation: Consider orchard in bearing at 6 years and its value at $250 per acre. Depreciate thereafter at one-thirtieth of this per annum.

(e) Figs -- Kadotas: Orchards should carry themselves after the eighth year. About 15 years of bearing life (may be more).

Average crops: Good lands, 3 tons per acre per year.
Fair lands, 2 tons per acre per year.
Poor lands, 1½ to 1 ton per acre per year.

(May expect 3 or 4 half crop years in the life of the tree.) To figure depreciation figure a value of $420 per acre at eighth year. Depreciate at rate of one-fifteenth of this each year thereafter.

Adriatics: In bearing at tenth year. Productive life thirty years. Average yields in a mature orchard:

Good lands, 2½ tons per acre per year.
Fair lands, 1¾ tons per acre per year.
Poor lands, 1 ton per acre per year.

(With high production, quality is apt to decline; so heavy yielding orchards may not be the best.)

Figure value at tenth year at $525 per acre. Depreciate at rate of one-thirtieth of this per year thereafter.

Black Missions: Use same basis of yields as for Adriatics, and depreciate over a period of fifty years.

Calimyrnas: The probable future of the Calimryna industry is affected considerably by the disease problem, and the assumptions made here are based on the presumption that the diseases affecting these figs will be brought under control.

Estimate of average yields:

Good land, 1¼ tons per acre
Fair land, ½ to ¾ tons per acre
Poor land, ¼ to ½ ton per acre

Figure ten years to producing age. Value at that time $525 per acre. Depreciate at one-twentieth of this per year thereafter.

(f) Walnuts: Will carry themselves in twelfth year, but owing to the fact that they permit of considerable intercropping, the net cost at 12 years is considered to be about the same as for peaches.

Figure cost at $225 per acre. Depreciate at one-fiftieth per year thereafter.

(g) Prunes: Cost a little higher than for peaches. Figure costs at $250 in seventh year. Depreciate at one-thirtieth for each year thereafter.

If trees or vines are pulled before full depreciation has been taken deduct remaining balance from investment and show as a cost under expenses.

(h) Alfalfa: In a cycle of eight years can figure on four full crops and one or two part crops, the other two years being those in which other crops are grown.

Assume that the in-between crops carry themselves. Figure cost per acre for establishing alfalfa $19.50. Charge off one-sixth of this for each year of alfalfa production. Cost of original rough leveling, $22 per acre.

Values to be Used:

For family labor: 1929 -- 35¢ per hour)
1930 -- 35¢ " ")without board
1931 -- 25¢ " ")
1932 -- 20¢ " " (Some of the poorer quality labor was hired at 15¢ in 1932)

Where cost of board is to be deducted use $1.00 per day except in 1932, when charge is $ .75 per day.

For livestock:

Cows:	Purebreds	$90.00 each
	Good dairy cows (unregistered, T. B.-free)	75.00 "
	Fair dairy cows	50.00 "
	Poor dairy cows	25.00 "
	Two year old heifers	30.00 "
	Six months to 2 year old heifers	15.00 "
	Calves	5.00 "
	Bulls -- good	75.00 "
	Bulls -- fair	50.00 "
	Horses -- record-taker's estimate	
	Sheep -- estimated market value	
	Swine -- estimated market value	
	Chickens	4.00 per dozen

APPENDIX D

Price Changes California Farm Products, 1910-1932

Table 1 gives the state average prices of the principal products grown in the Merced Irrigation District (with the exception of figs) over the period 1910 to 1932. For figs neither the production data nor the price data are very dependable for very many years back. Table 2 gives an estimate of prices for the various varieties of figs since 1926 (as estimated by Mr. D. W. Ewing, Manager of the Planada Fruit Farms Inc. and Mr. Wm. H. Alison, Jr., County Agricultural Agent for Merced County).

In the case of fresh peaches for 1932 the figure of $16 per ton shown as state average is not representative of the prices received in the District where most of the movement was to the eastern markets and encountered disastrous price conditions. Two of the larger shipping agencies handling fresh peaches from the Merced District in 1932 received returns (on shipments totaling more than 200 cars) insufficient to cover freight and selling charges, leaving nothing for the expense of growing the crop. The third shipping agency netted $3.11 per ton on shipments totaling 158 cars.

In this case, as in certain others, the state price does not represent accurately the prices received by growers in the District. Price data from the District alone, however, are hardly sufficient to give dependable averages since the range of prices for given products is very wide. Simple averages of the prices shown by the survey records taken are given in Table 3, however, in order that the readers of the report may be able to compare these with the state figures shown.

Weighted averages of the prices for the principal products of the District, excluding figs, are as follows (state prices weighted on basis of 1930 relative

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[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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[illegible]

[illegible]

[illegible]

quantities produced).

(1910-14 average = 100)

1929 - 152.9

1930 - 97.9

1931 - 79.4

1932 - 55.2

Table 1

Farm Prices of California Farm Products, 1910-32*

Year	Barley	Rice	Cotton	Alfalfa	Almonds	Raisins	Apricots (dried)	Peaches (canning)	Peaches Elberta	Milk	Milk fat
	dollars per 100 lbs.	dollars per 100 lbs.	dollars per bale	dollars per ton	cents per lb.	dollars per ton	dollars per ton	dollars per ton	dollars per ton f.o.b.	dollars per 100 lbs.	cents per lb.
1910	1.15	1.44	66.50	9.10	11.3	55	164	22	50	2.51	35.3
1911	1.53	1.67	37.50	9.70	13.4	81	250	44	60	2.61	30.4
1912	1.46	2.02	62.50	11.20	10.7	62	160	24	36	2.75	36.1
1913	1.40	2.22	65.00	11.20	14.3	70	230	30	--	2.38	36.7
1914	1.14	2.22	35.00	6.60	14.0	73	200	25	33	2.18	31.0
1915	1.19	2.00	56.00	8.60	10.5	77	140	12	21	2.15	29.9
1916	1.75	1.73	100.00	11.60	13.8	95	250	29	54	2.22	33.4
1917	2.56	3.89	140.00	17.30	14.1	110	276	35	51	2.56	46.2
1918	2.61	4.22	150.00	17.80	19.3	117	290	50	81	2.95	57.2
1919	3.14	5.93	215.00	18.70	19.5	222	444	88	66	3.13	67.7
1920	2.45	2.69	150.00	20.20	14.1	252	384	100	80	3.50	67.6
1921	1.27	2.56	85.00	10.10	13.8	158	300	35	72	2.83	46.8
1922	1.36	2.44	130.00	12.60	14.9	64	380	60	26	2.85	46.6
1923	1.46	2.49	160.00	14.60	11.5	49	176	30	39	2.81	53.8
1924	2.26	3.69	120.00	19.00	14.4	60	264	45	55	2.58	46.8
1925	1.52	3.78	110.00	14.60	19.5	72	340	35	61	2.66	53.8
1926	1.20	2.91	70.00	12.60	16.5	54	380	40	46	2.55	48.2
1927	1.87	2.51	105.00	13.40	15.6	46	280	22.50	64	2.67	50.4
1928	1.57	1.96	97.50	15.40	17.5	36	290	20	41	2.65	51.0
1929	1.42	2.33	90.00	17.50	22.3	64	310	68	50	2.68	50.8
1930	.98	1.84	53.50	12.20	10.5	50	204	20	40	2.48	39.2
1931	.96	1.24	32.50	10.10	8.1	60	140	14.50	38	2.06	28.3
1932**	.60	.80	34.00	7.50	8.2	40	108	6.50	16	1.65	21.7

* From computations by Dr. H. J. Stover, Giannini Foundation of Agricultural Economics, Univ. of California

** Preliminary.

Sources of data: (See sheet attached.)

[illegible]

Sources of price data: (Table 1)

Barley:	Weighted crop-year averages of the monthly prices estimated by the U. S. Department of Agriculture converted from bushel to hundredweight basis.
Rice:	December 1st prices as estimated by the U. S. Department of Agriculture converted from bushel to hundredweight basis.
Cotton:	December 1st prices as estimated by the U. S. Department of Agriculture converted from pound to bale basis.
Alfalfa:	Weighted crop-year averages of the monthly prices estimated by the U. S. Department of Agriculture. 1910-13 prices based on prices received by a grower at Modesto as published in California Bul. 521.
Almonds:	Wellman, Prices since 1921 are weighted averages of the prices of six important varieties. Prices prior to 1921 are weighted averages of the prices of four varieties adjusted to an approximate comparability with the prices for the years since 1921.
Raisins:	Shear, Estimated prices paid growers for raisins in the sweat box.
Apricots, dried:	Wellman, Compiled from prices paid by large commercial packers and the California Prune and Apricot Growers' Association.
Peaches, canning:	Wellman, Compiled from prices paid by canners prior to 1922 and from prices paid by the California Canning Peach Growers' Association since 1922.
Peaches, Elbertas:	Wellman, Auction prices at Chicago with deductions made for freight, refrigeration, and commission charges. Packaging and loading charges amounting to from $20 to $25 per ton have not been deducted.
Milk:	Unweighted annual averages of the monthly prices estimated by the U. S. Department of Agriculture. Prices prior to September, 1923 converted from gallon to hundredweight basis.
Milk fat:	Unweighted annual averages of the monthly prices estimated by the U. S. Department of Agriculture. Prices prior to 1930 based on prices published by Voorhies in table 43 of California Bul. 514.

Table 2

Approximate Prices Received by Growers for Figs Testing Ninety Per Cent or Better, 1926-1932*

	Adriatic		Calimyrna		Black		Kadota		
							Dried		Fresh
	Out-side	Associ-ation advance	Out-side	Associ-ation advance	Out-side	Associ-ation advance	Out-side	Associ-ation advance	Canning
1926							No demand prior to 1928**		.06
1927	.02¼		.05						.01
1928	.04½		No crop		.05½		.04		.06
1929	.07		.09		.06		.06½		.05
1930	.05		.06½		.03½		.02		.05
1931	.04	.03	.07	.04	.03	?	Orchard .01 run	?	.02½
1932	.02¼	.01¼	.04½	.02½	.02	.01	.01¼	.01	.01¼

* From estimates by D. W. Ewing and Wm. H. Alison, Jr.

** 1928 first year any sold in state.

Table 3

Prices of Farm Products, Merced District

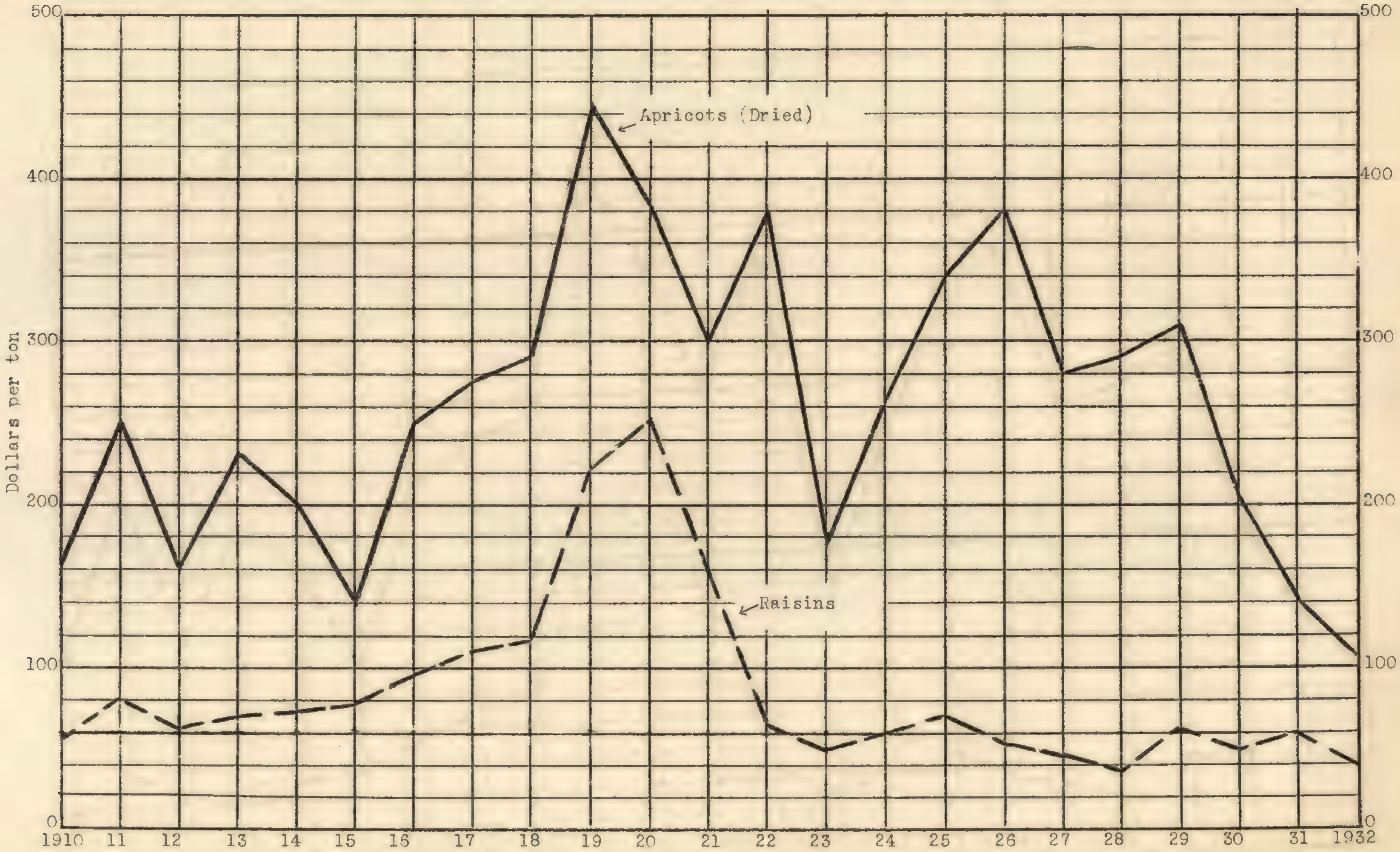
(Averages of prices shown by the survey records taken)

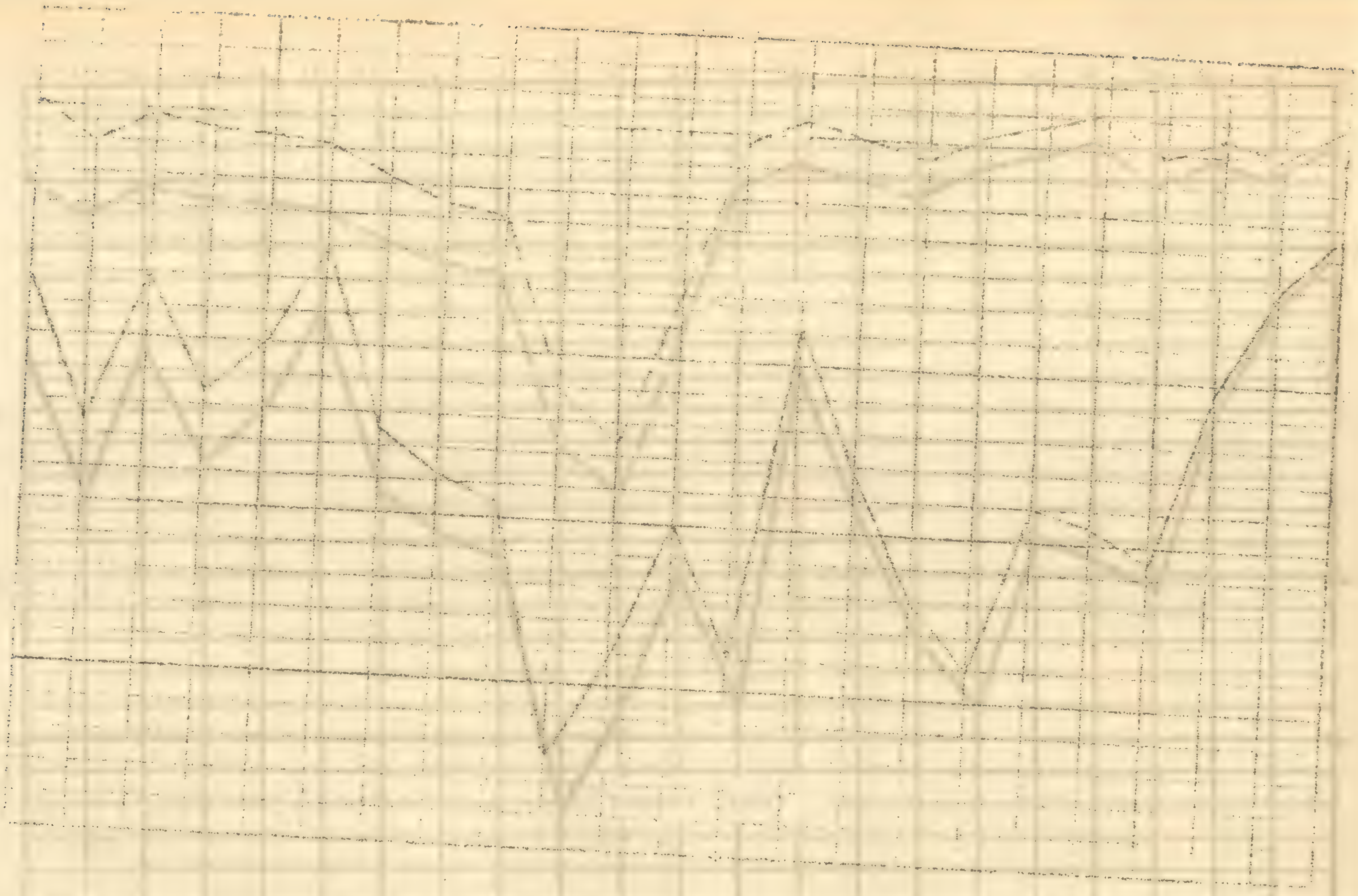
Year	Eggs	Figs			Kadota		
		Adriatic	Calimyrna	Black	Dried	Fresh	Canning
1926	--	--	--	--	--	--	.06
1927	--	.02¼	.05	--	--	.01	
1928	28	.04½	--	.05½	.04	.06	
1929	31	.07	.09	.06	.06½	.05	
1930	23	.05	.06½	.03½	.02	.05	
1931	19	.04	.07	.03	.01	.02½	
1932	15	.02¼	.04½	.02	.01¼	.01¼	

Year	Rice	Peaches			Grapes		
		Fresh	Canning	Drying	Table	Raisin	Juice
	per cwt.						
1926	2.84	--	--	--	--		--
1927	2.65	--	--	--	--		--
1928	2.13	--	--	--	--		--
1929	2.29	30.45	57.30	177.97	25.57		28.31
1930	1.85	22.55	14.15	108.28	19.99		19.95
1931	1.35	12.32	11.50	91.70	17.35		17.31
1932	0.85						

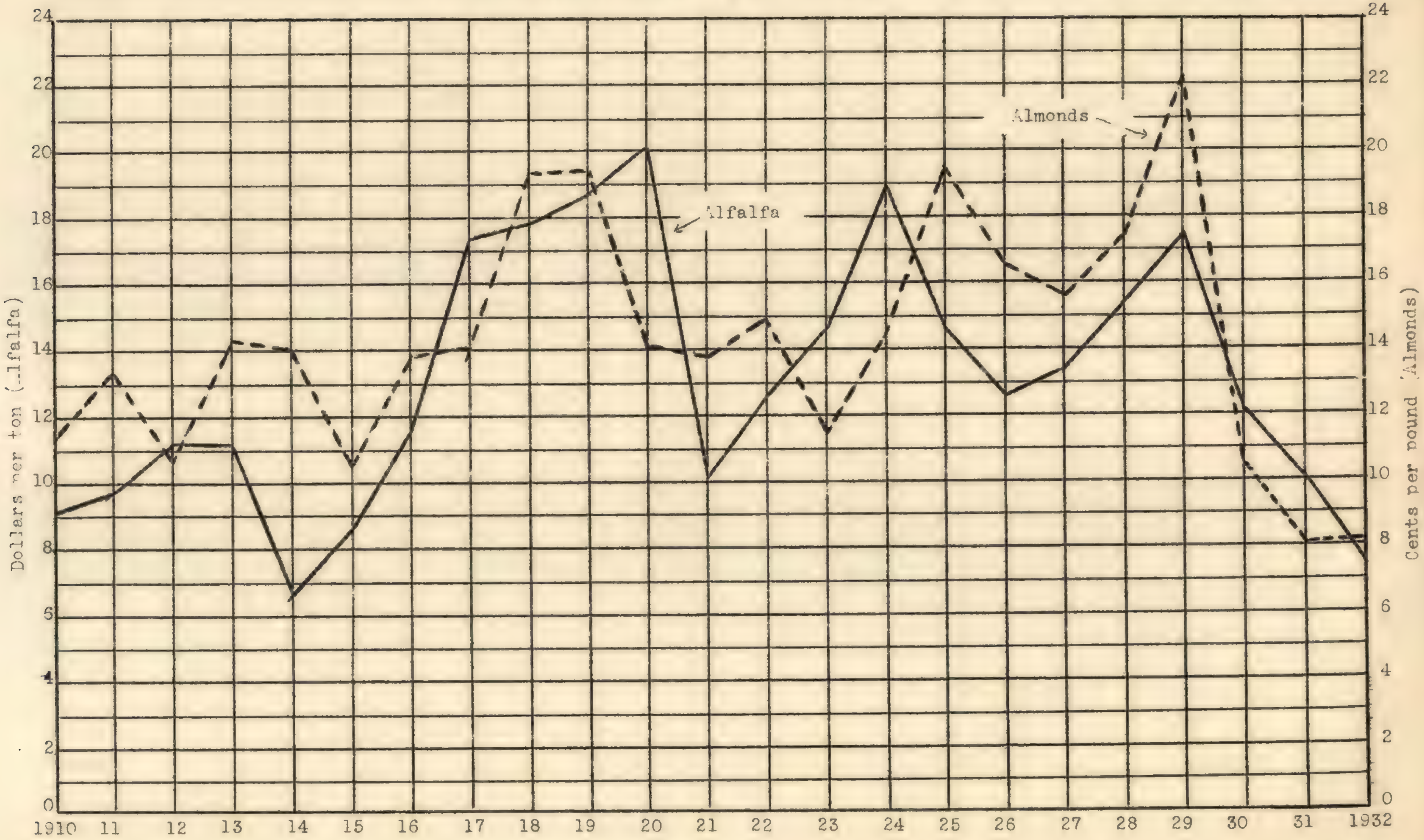
Year	Figs dried	Apricots		Almonds	Alfalfa	Cotton	Barley
		Fresh	Dried				
1929	83.75	66.00	319.00	.215	13.77	80.94	1.18
1930	63.45	43.89	160.06	.107	12.49	43.27	0.98
1931	39.50	20.00	122.68	.070	9.04	36.00	0.95

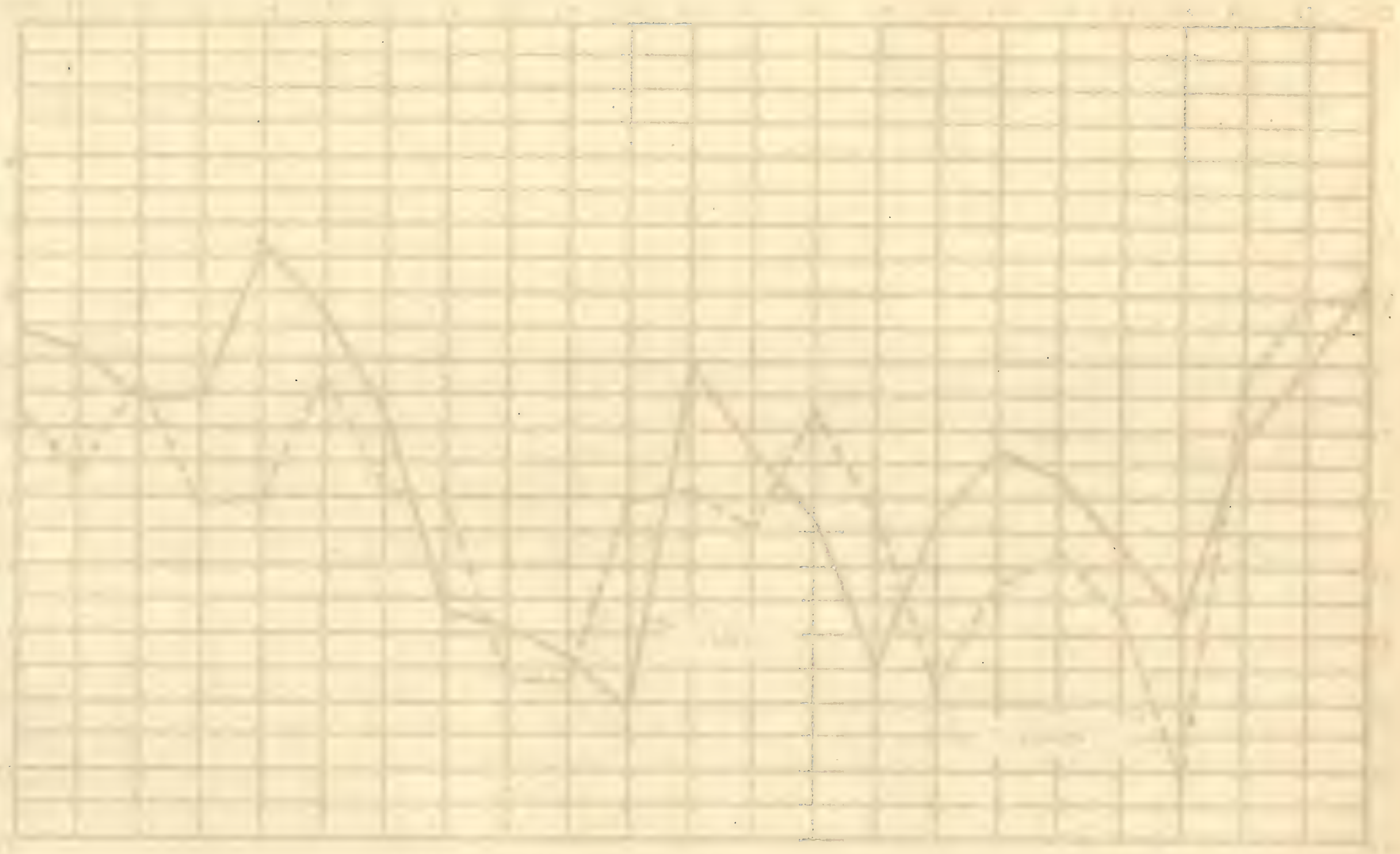
California Prices of Dried Apricots and Raisins, 1910-32





California Prices of Almonds and Alfalfa, 1910-32





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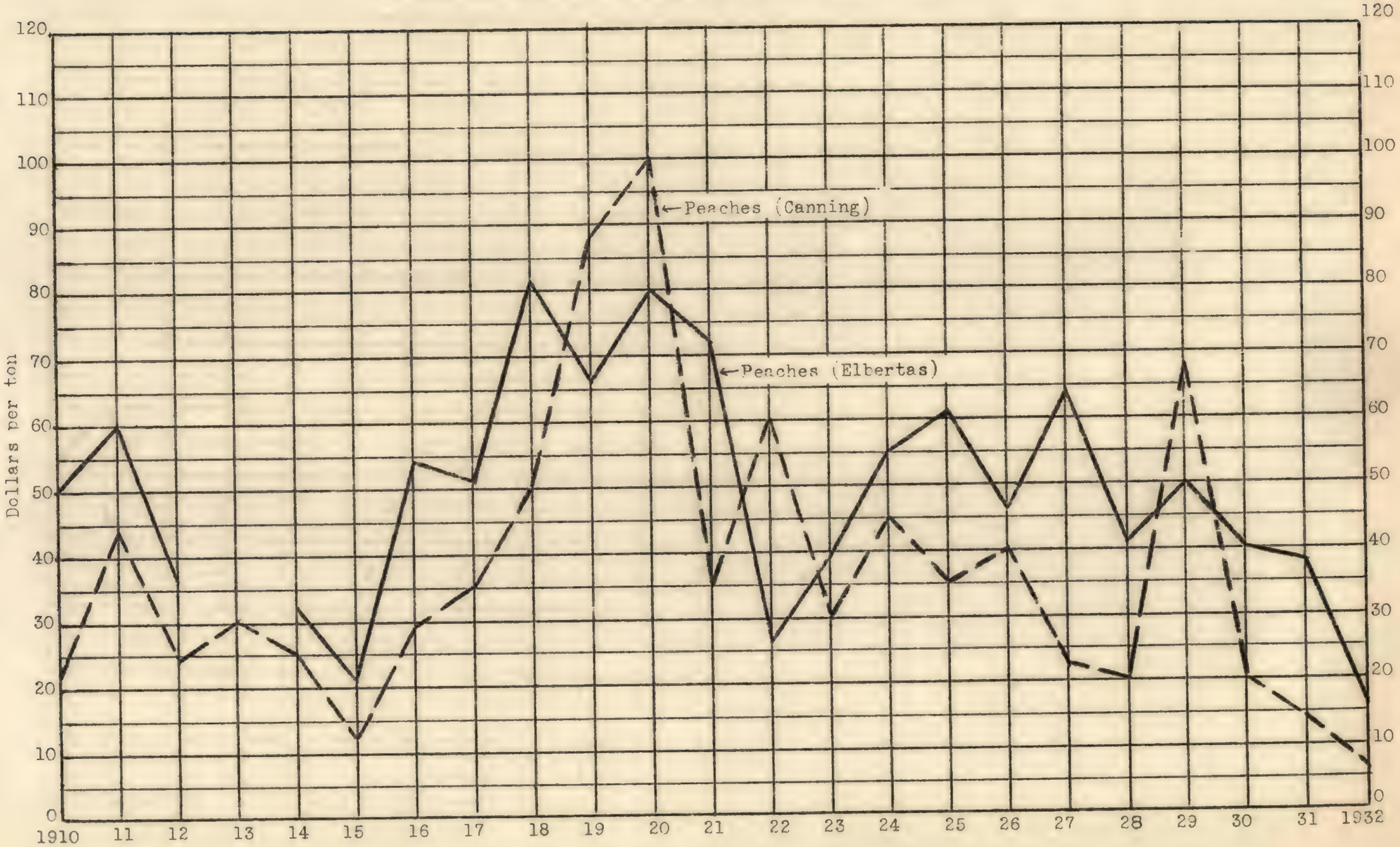
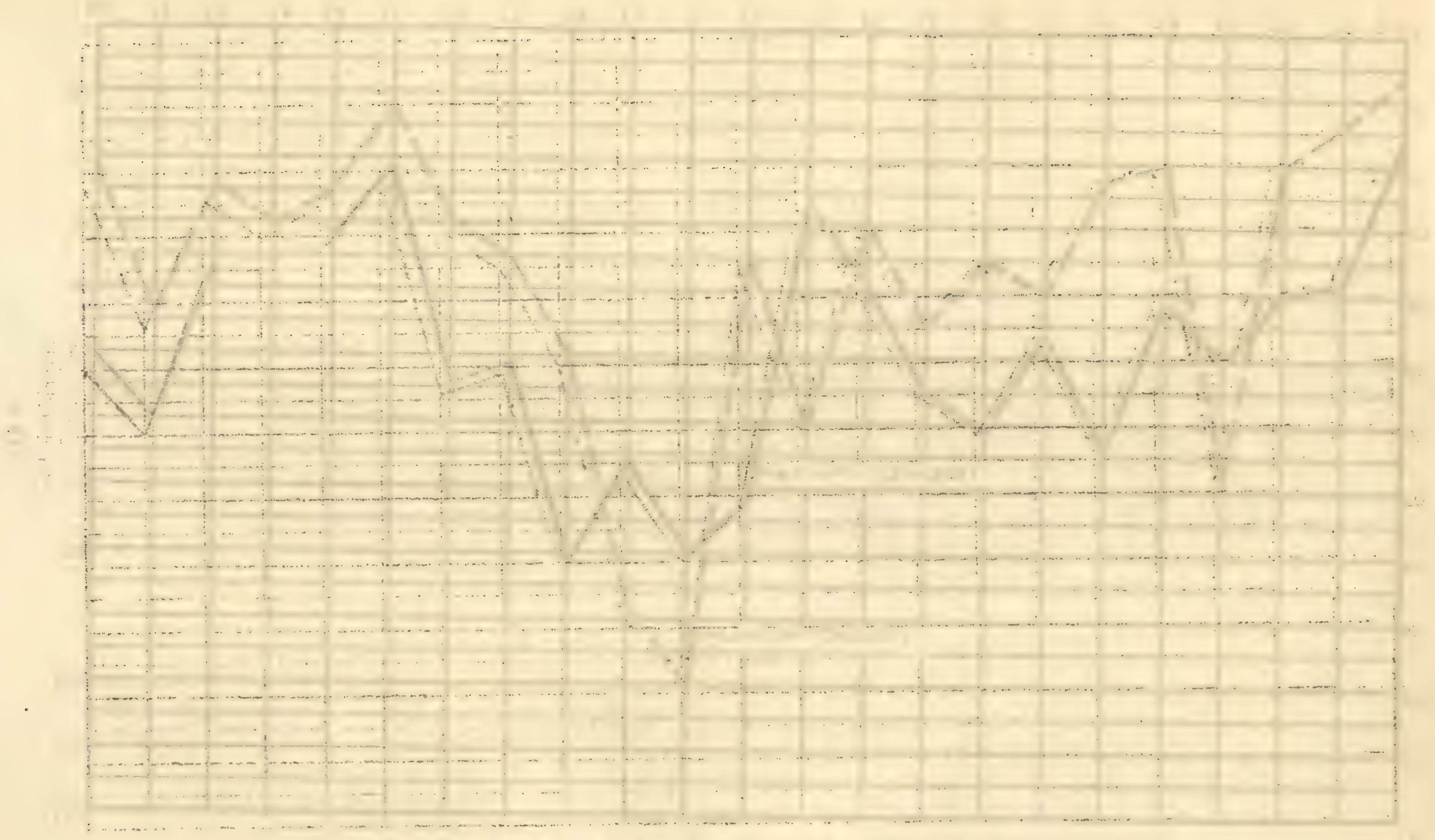
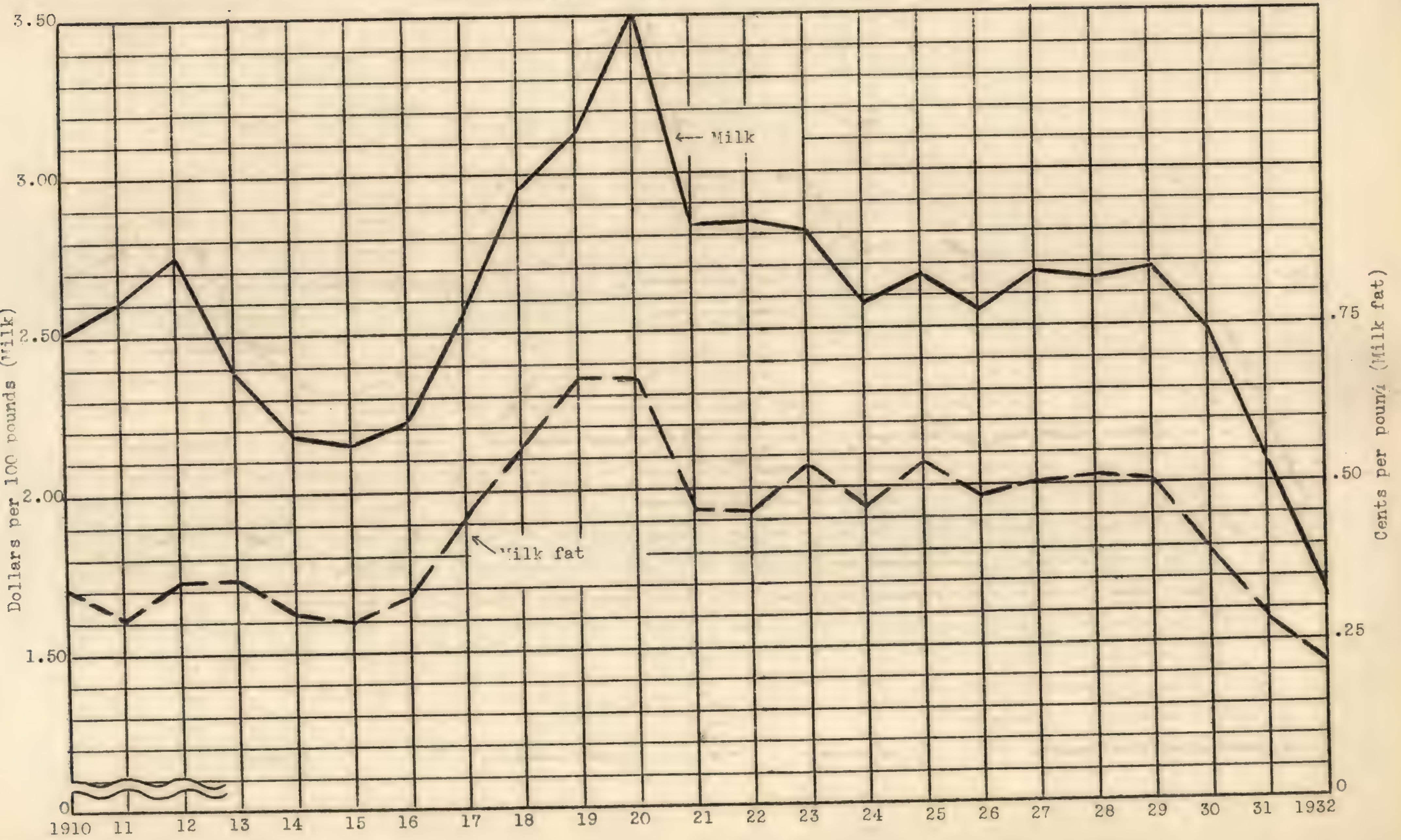
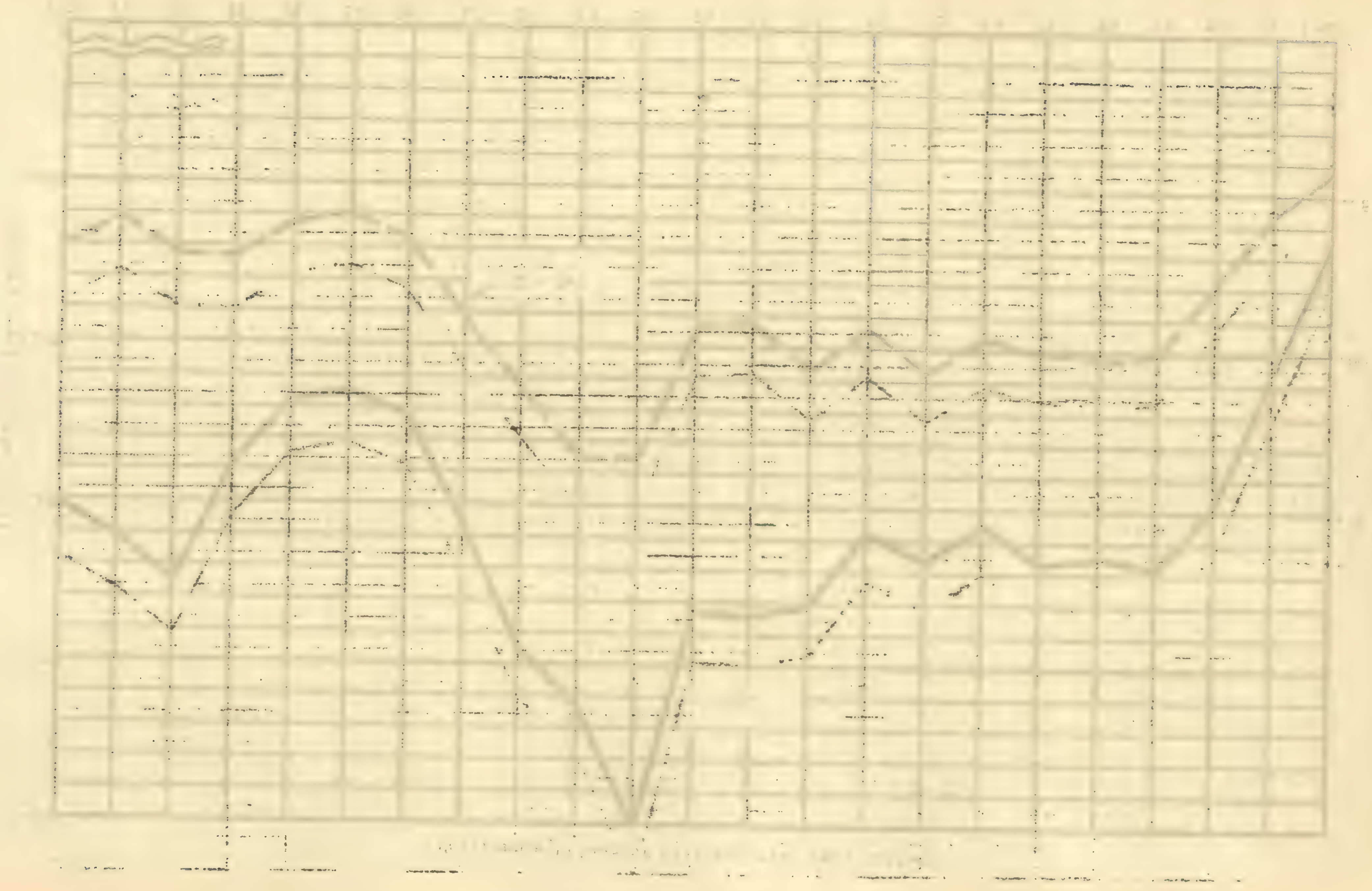
California Prices of Canning and Elberta Peaches, 1910-32



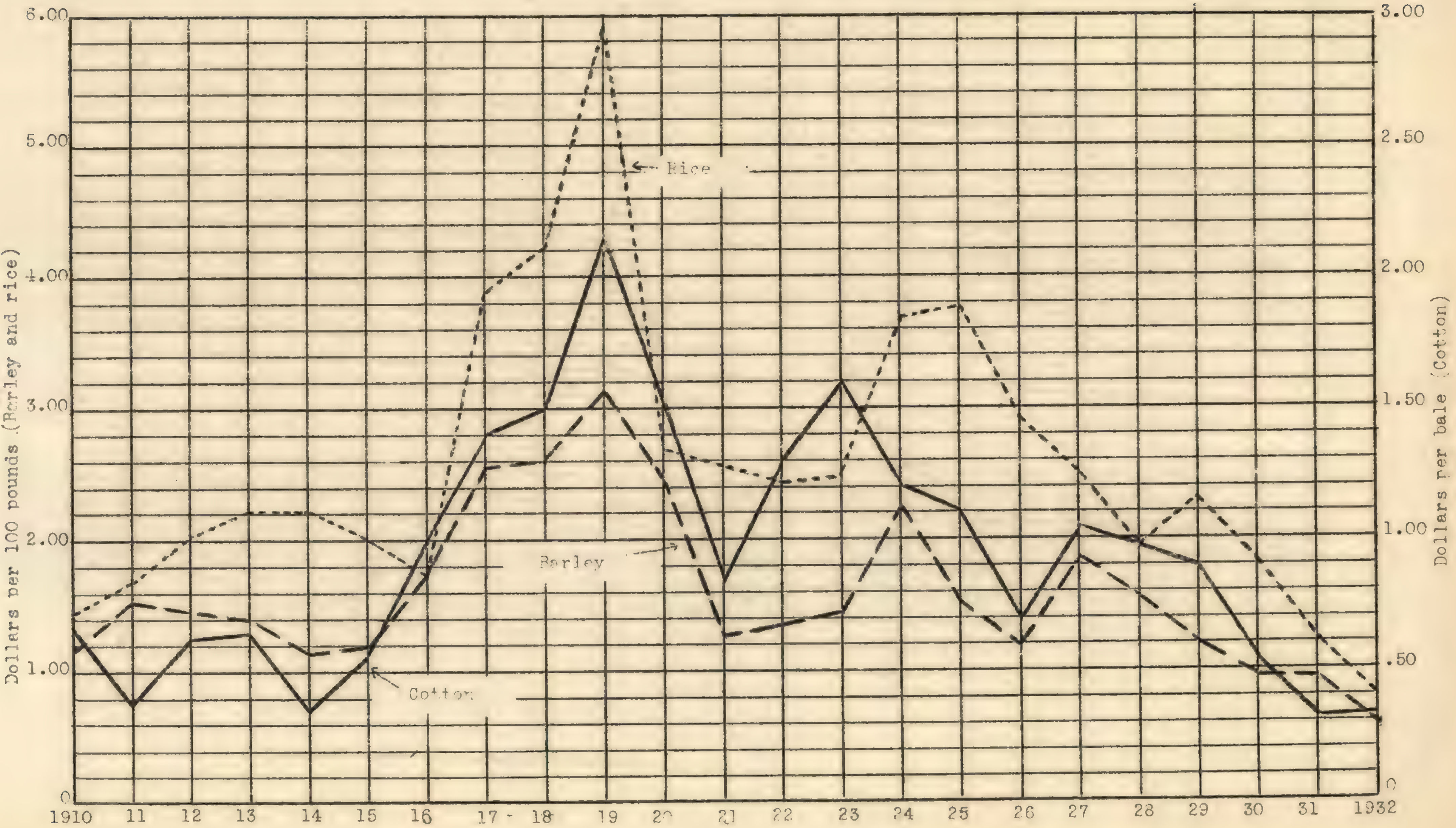


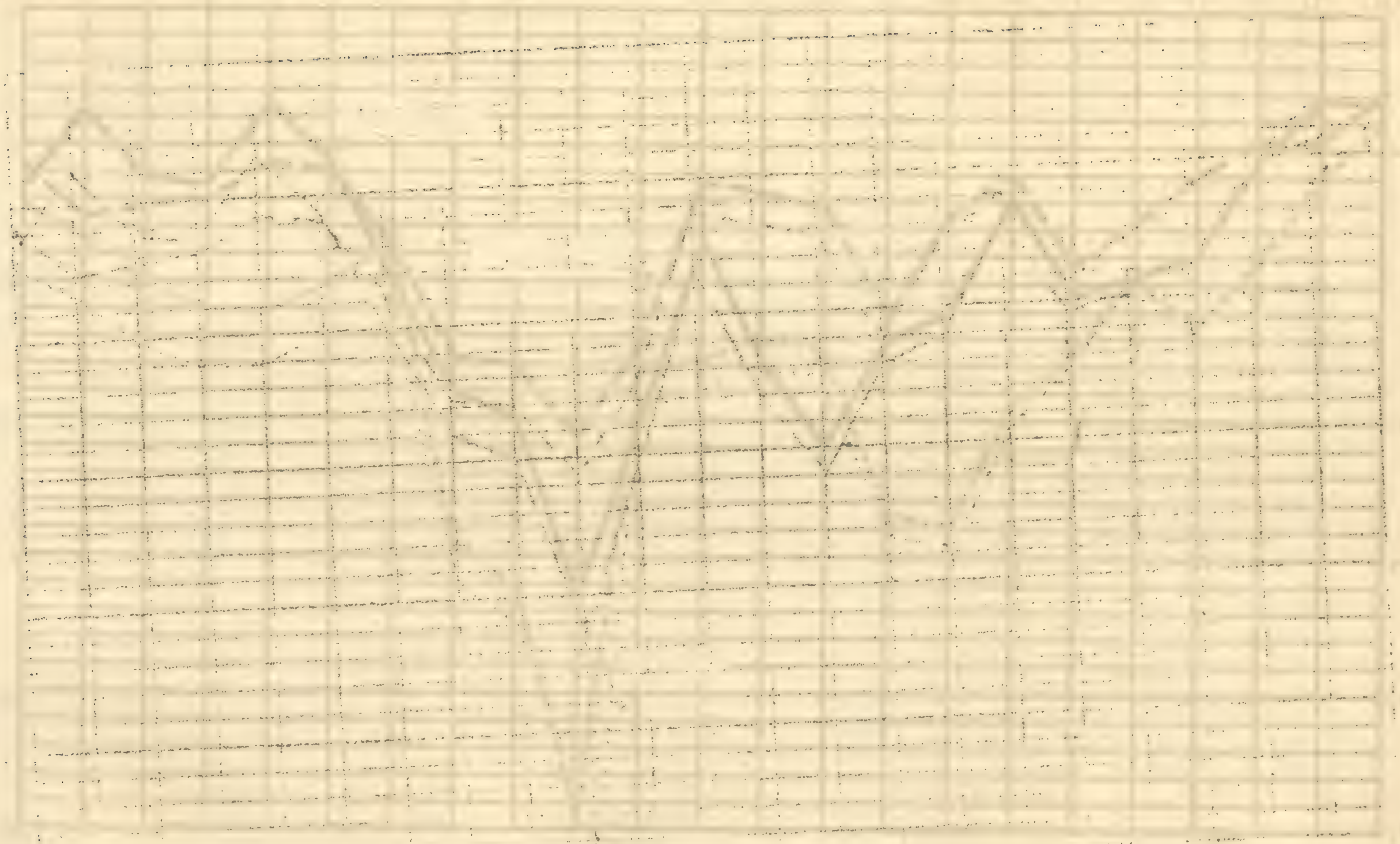


California Prices of Milk and Milk fat, 1910-32



California Prices of Rice, Cotton, and Barley, 1910-32





APPENDIX G

Income from Lands Taken Over by the Merced Irrigation District

(1928 to 1932 inclusive)

Table 1 shows acreages of land sold and leased by the District during the years 1928 to 1932 and the income from them. It will be noted that sales were substantial in the year 1929, but have been negligible since that time. The tendency is of course for the poorer and the relatively over-assessed lands to pass into the hands of the District. Many of these pieces have not yielded any net return in the last three years. Recently some of the better lands, especially those not highly developed are being allowed to pass to the District. It will be noted that the average return on these lands was in 1931 about 65 cents per acre and in 1932 about $1.10 per acre. (See Table 1 .)

Table 1

Income from Lands Taken over by the Merced Irrigation District

(Segregated by years)

Year	Acres	Assessed value	Delinquent taxes	Sales price	Misc. expense	Net returns from sales	Income from leases	Total net return
				Properties sold				
1928	40	$ 1,200*	$ 592.95	$ 592.75		$ 592.75		$ 592.75
1929**	2507½	226,060	82,036.46	49,782.40	$24,178.01	24,428.38	$9,498.49	33,926.87
1930	1337	30,860	13,869.80	7,230.00		6,230.00		6,230.00
1931	56	5,600	1,343.42	1,204.00		871.20		871.20
1932	15	2,185	628.75	550.00		250.00		250.00
Total	3955½	265,905	98,471.38	59,359.15	24,178.01	32,372.33†	9,498.49	41,870.82
				Properties on hand				
1928	210	23,100	7,837.64				187.80	187.80
1929	681	52,025	20,170.34				1,155.96	1,155.96
1930	20	1,400	575.30				--	--
1931	4019	387,395	126,726.32				2,611.24	2,611.24
1932	5019	509,105	133,707.93				2,594.90	2,594.90
							3,000.00‡	3,000.00
Total	9949	973,025	289,017.53				9,549.90	9,549.90

* One parcel not given.

** Acreage of four lots not given.

† Net return from sales does not exactly equal sales price owing to failure in some cases to make full payments on purchases. These balances shown as Bills Receivable on the books of the District.

‡ Estimate of unsold crops.

APPENDIX H

Production Costs per Acre for Certain Tree Crops as Shown by Records Assembled by the Agricultural Extension Service, University of California

The figures shown in this section have been secured over a number of years by means of records kept by cooperating farmers and analyzed by the county agricultural agent and the farm management specialists at the Agricultural College. They were brought together for the purpose of studying relative efficiencies in the production methods of different farmers. The figures shown are from Stanislaus County, a somewhat more fully developed area with probably a more stable agriculture than that which exists at present in the Merced District. They are presented here in order that readers of this report may have opportunity to compare the costs shown in this report with those obtained by other methods and in a different but somewhat similar area.

The costs shown are somewhat higher than those indicated by the survey of the Merced District. This is partly due to the placing of higher valuations on some of the items of cost, particularly labor, to the fact that the figures are somewhat more complete owing to the more detailed method of securing them, and to the fact that the figures from the Merced Survey are divided by a somewhat larger acreage than that which is actually in the particular tree and vine crops, since the farm is the unit considered rather than the specific acreage in the crop under consideration. Also the figures shown in this appendix are drawn from a particular group of cooperating farmers and are not designed to present a cross section of all the varying cost conditions such as the survey seeks to present.

Costs of Growing Apricots[1]

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[1] Final Summary of the Stanislaus County Apricot Enterprise Study Containing Income and Costs pertaining to the Growing of Apricots in Stanislaus County during the Five years 1927-1931, University of California Agricultural Extension Service. By A. A. Jungerman and Arthur Shultis.

The tables following these are taken from similar summaries of the costs of growing almonds and peaches.

The two tables showing costs of almond production are from the Third Annual Report and Three-year Summary of Almond Efficiency Study for Stanislaus County, 1930. University of California Agricultural Extension Service, pp. 6 and 7. It was compiled by A. A. Jungerman, county agricultural agent for Stanislaus County, in cooperation with the University's extension specialists in Farm Management.

The tables showing costs of peach production are of similar origin and show costs in Stanislaus County for the year 1929.[√]

The costs in this case are only for the year 1929, and do not, of course, reflect such reductions in costs as have occurred since that time. It needs to be clearly understood, however, that the costs shown here are not strictly comparable to those shown in the Merced survey. The Stanislaus figures are from a specific group of farmers, ordinarily the better farmers, and are computed on the basis of the specific acreages of these crops which are grown on these farms.

[√] See "Summary of the Peach Efficiency Study for Stanislaus County, 1929," University of California Extension Service, by A. A. Jungerman.

COSTS OF GROWING APRICOTS

The individual's cost of growing the apricots stands about third in the list of main profit-determining factors. The cost per ton is of course determined by the cost per acre and the yield. By far the greater proportion of the costs will be present even without any yields, so a study of the fixed costs per acre should furnish opportunities for cost reduction. Table II which follows presents the totals for various classes of expense per acre. Since varying amounts of fruit were dried from year to year the cost of drying is placed last and a comparison of costs excluding drying is more appropriate. Inspection of these figures shows that fixed costs per acre have decreased the last few years. The higher total costs for 1929 and 1931 are due to handling larger crops.

Table II.

Summary of All Costs per Acre

	1927	1928	1929	1930	1931	Five Year Av.
Cultural Labor Costs	$ 39.68	$ 39.11	$ 38.97	$ 35.14	$ 29.62	$ 36.50
Harvesting and Handling Costs	35.82	31.27	97.08	29.43	52.61	49.24
Total Labor Except Drying	75.50	70.38	136.05	64.57	82.23	85.74
Total Material Cost	13.07	10.48	18.84	6.64	9.98	11.81
Cash Overhead Cost	11.06	11.71	15.06	9.91	11.12	11.77
Total Cash and Labor Costs	99.63	92.57	169.95	81.12	103.33	109.32
Depreciation	16.75	18.31	23.67	19.06	22.99	20.16
Total Cash, Labor and Depreciation	116.38	110.88	193.62	100.18	126.32	129.48
Interest on Investment	38.13	40.68	40.70	38.90	32.42	38.17
Total All Costs Except Drying	154.51	151.56	234.32	139.08	158.74	167.65
Drying Cost (Av.Totals for All Acres)	16.40	29.75	59.98	17.41	74.84	39.67
Av. Total Costs per Acre	170.91	181.31	294.30	156.49	233.58	207.32

The five-year average is a good indication of what the total cost per acre for growing apricots was over the past five years. With lower prices for everything, costs in the future should be a little lower than the five-year average shown, probably as low as 1931 or even lower. However, many of these costs are fixed and cannot be lowered. Each class of expense will be taken up later.

LABOR COSTS PER ACRE
(Apricots)

The following table shows the labor cost or value for each operation. The charge shown consists of the cost of hired labor, the value of the owner's own labor at the going wage, and the cost or value of horse, tractor or truck power. To the extent that this item includes the value of operators and family labor as well as interest and depreciation on horses, tractors, and trucks the labor cost shown is not actual cash outlay but is considered as such throughout this study.

The cost for each operation shown below is the average cost of that operation upon the acreage performing it. Since not all orchards performed every operation listed, the average totals shown are not the sums of the separate items but are obtained by dividing the total cost for all operations on all acreage by the number of acres. The total cost for all operations shows what the cost would be if all operations were performed at the average costs shown above.

Table IV.

Labor Costs per Acre, Up to Drying

	1927	1928	1929	1930	1931	5-Year Av.
Pruning and Brush Disposal	$19.01	$18.18	$18.69	$21.64	$14.24	$18.35
Cover Cropping and Fertilizing	.76	1.39	1.42	.50	1.79	1.17
Spraying	5.95	4.77	4.58	3.68	3.75	4.55
Irrigating	2.80	3.70	3.19	3.69	3.93	3.46
Cultivation	10.40	8.83	7.38	7.09	7.49	8.24
Heating	1.90	3.24	4.97	2.04	1.84	2.80
Miscellaneous	.83	5.89	8.39	- -	1.01	3.22
Average Total Cultural Costs	39.68	39.11	38.97	35.14	29.62	36.50
Total Cost for All Operations	41.65	46.00	48.62	38.64	34.05	41.79
Thinning	5.44	3.92	10.61	3.39	5.19	5.71
Propping	1.60	2.66	8.32	.27	2.12	2.99
Picking and Hauling	33.47	29.86	87.72	28.56	47.14	45.35
Average Total Labor Costs	75.50	70.38	136.05	64.57	82.23	85.74
Total All Operations	82.16	82.44	155.27	70.86	88.50	95.84

It will be noticed that 1931 witnesses a lower cost for most operations due to lower prevailing wage rates. Certain further economies can be effected in most all of the labor costs since the above figures are averages and many records show costs considerably lower. A reduction in pruning, spraying, and cultivation costs could be effected by lower wage rates and by cutting down the quantity of cultivation.

Attention should be called to the fact that the operator can increase his net cash income by utilizing to better advantage his own labor so the cost of hired labor is reduced. Such a change can be made with no decrease in total labor costs shown, the operator merely securing for himself a larger part of the total labor costs.

MATERIAL COST PER ACRE

(Apricots)

Costs for each kind of material per acre of orchard using that material are shown in Table V. Little opportunity exists for cutting the cost of any of these items other than ordinary care and economy. The heating material costs vary with the amount of heating necessary. The total material cost for all operations is shown to represent the expense to the grower if all operations were performed. The average total represents the average cost per acre for materials to all acres, a great many of which do not have all the expenses listed.

Table V.

Material Costs per Acre

	1927	1928	1929	1930	1931	5-Yr. Av.
Irrigation Taxes or Water Cost	$ 5.74	$ 5.88	$ 5.44	$ 5.20	$ 5.43	$ 5.54
Fertilizers and Cover Crop Seed	1.13	1.28	3.05	.85	1.26	1.51
Spray Materials	6.08	3.47	4.18	2.60	4.83	4.23
Heating Material	6.18	2.08	12.53	1.36	3.53	5.14
Bracing	- -	2.83	5.00	- -	- -	1.57
Harvesting	1.70	.59	2.77	.86	.39	1.26
Miscellaneous	.29	- -	- -	- -	1.50	.36
Average Total	13.07	10.48	18.84	6.64	9.98	11.81
Total for All Materials	21.12	16.13	32.97	10.87	16.94	19.61

CASH OVERHEAD COSTS PER ACRE

Cash overhead costs are made up of taxes, repairs, insurance and other minor cash expenses, none of which can be materially reduced. General expense is computed at 5% of the total labor and material cost and is included to cover small unreported items of expense for the apricot orchard.

Table VI.

Cash Overhead Expense per Acre

	1927	1928	1929	1930	1931	5-Yr. Av.
General Expense	$ 4.42	$ 4.04	$ 7.74	$ 3.56	$ 4.61	$ 4.87
County Taxes	6.64	7.67	6.39	5.72	4.95	6.27
Machinery Repair	- -	- -	- -	1.15	1.09	1.12
Compensation Insurance	- -	- -	.93	1.34	2.48	1.58
Average Total	11.06	11.71	15.06	9.91	11.12	11.77
Total for All Expenses	11.06	11.71	15.06	11.77	13.13	13.84

The average investment per acre for each class of investment is shown in Table VII. The values shown are present depreciated values rather than original cost. The tree values were based upon the age of the tree with a cost of trees at full bearing age of about $350.00 per acre, and $12.00 to $15.00 an acre depreciation deducted each year in order to have the trees written off at forty years of age. The other items are obtained from an annual inventory submitted by each grower with depreciation deducted from original cost at the rate considered most applicable by the grower.

Table VII.

Average Investment per Acre

	1927	1928	1929	1930	1931	5-Yr. Av.
Trees	$264.70	$283.84	$279.25	$268.68	$286.52	$276.60
Improvements	7.40	21.83	20.59	19.13	14.98	16.79
Equipment	13.47	22.40	28.56	29.55	29.33	24.66
Land	350.00	349.97	350.00	330.92	209.58	318.09
Total	635.57	678.04	678.40	648.28	540.41	636.14

The investment overhead resulting from the investment of capital in the enterprise is shown in Table VIII. Depreciation is based upon growers' estimated life and use of their equipment, while interest is calculated at 6% of the remaining value which was shown above in Table VII. Table XXIII shows a list of equipment, its original cost and annual depreciation. The only way the grower can reduce these overhead items is in economy in purchase coupled with good care and maintenance, thus prolonging the life of each item.

Table VIII.

Investment Overhead per Acre

	1927	1928	1929	1930	1931	5-Yr. Av.
Depreciation on Trees	$12.80	$12.76	$16.92	$12.54	$14.85	$13.97
Depreciation on Improvements	.23	1.61	.94	1.11	1.65	1.12
Depreciation on Equipment	3.72	3.94	5.81	5.41	6.49	5.07
Total Depreciation	16.75	18.31	23.67	19.06	22.99	20.16
Interest on Value of Trees	15.88	17.03	16.75	16.12	17.19	16.59
Interest on Value of Improvements	.45	1.31	1.24	1.15	.90	1.01
Interest on Value of Equipment	.80	1.34	1.71	1.77	1.76	1.48
Interest on Value of Land	21.00	21.00	21.00	19.86	12.57	19.09
Total Interest on Investment	38.13	40.68	40.70	38.90	32.42	38.17
Total Investment Overhead	54.88	58.99	64.37	57.96	55.41	58.33

SUMMARY OF COSTS PER TON

(Apricots)

The costs per acre divided by the yield in tons give the costs per ton. Most charges are determined on an acreage basis and are not affected by yield. The exceptions are thinning, propping, picking, hauling and drying which are determined on a tonnage basis and the cost per acre depends on the yield. Table IX shows these costs where reported along with totals for the different groups of costs. Cultural costs in 1931 are much lower per ton because tonnage per acre was high.

The total costs before drying are shown so growers who dry fruit will have this figure to compare with costs of the grower who sells fresh fruit only. The drying costs shown are made up of labor, materials, and 5% general expense to cover incidentals.

The year 1931 shows the lowest cost per ton before drying and per green ton dried because of the large yield in 1931 and because of lower costs per acre for many operations. The big problem faced by the apricot grower is to secure these big yields every year rather than in alternate years.

Table IX.

Summary of Costs per Ton

	1927	1928	1929	1930	1931	5-Yr. Av.
Cultural Labor Cost	$10.41	$11.62	$ 4.34	$10.98	$ 3.23	$ 6.39
Thinning, Where Done	1.52	.82	1.07	1.04	.56	.80
Propping	.56	.32	.34	.18	.21	.26
Picking	8.22	8.52	9.13	9.25	4.89	8.05
Hauling	1.05	1.83	.94	.50	.61	.75
Av. Total Labor Cost, Up to Drying	19.81	20.91	15.16	20.18	8.97	15.02
Total Material Cost per Ton	3.43	3.11	2.10	2.08	1.09	2.07
Cash Overhead	2.90	3.48	1.61	3.10	1.21	2.06
Total Cash and Labor Costs	26.14	27.50	18.87	25.36	11.27	19.15
Depreciation	4.40	5.44	2.64	5.96	2.50	3.53
Total Cash, Labor and Deprec.	30.54	32.94	21.51	31.32	13.77	22.68
Interest on Investment	10.01	12.09	4.53	12.16	3.54	6.68
Total All Costs, Up to Drying	40.55	45.03	26.04	43.48	17.31	29.36
Drying Cost per Green Ton	13.72	13.96	14.21	12.78	9.32	11.08
Total Cost per Green Ton Dried	54.27	58.99	40.25	56.26	26.63	40.44

Table IV.

GENERAL COMPARISON FOR THREE YEARS
LABOR COSTS PER ACRE

	1928	1929	1930	3-Year Average	
				Per Acre	Per Lb.
Pruning and Brush Disposal	$5.51	$5.80	$9.79	$6.86	0.6¢
Cover Crop and Fertilizer	1.43	1.72	3.97	3.18	0.0
Spraying	2.95	3.02	2.15	2.55	0.2
Pest Control	1.35	1.04	.68	1.18	0.0
Cultivation	6.87	5.88	6.69	6.50	0.8
Irrigation	3.76	4.00	4.93	4.25	0.5
Harvesting	11.98	16.87	18.07	15.46	1.8
Hulling	10.72	11.92	13.65	12.03	1.4
Delivering	1.19	1.17	.96	1.09	0.1
Heating	1.25	5.76	1.95	2.90	0.1
Miscellaneous	1.20	2.79	1.66	1.79	0.1
Average Total*	$39.80	$49.25	$55.36	$47.73	6.0¢

Total labor costs have shown an increase each year for the past three years. This is largely due to the increase in yield and affects such labor items as harvesting and hulling. The other items remain fairly constant. The pruning cost is higher in 1930 due to one large operator doing more pruning in 1930 than he did in 1928 and 1929. Heating costs were higher in 1929 due to heating labor that was necessary during the 1929 frost period. Actual labor and material costs will average approximately $50.00 per acre per year in producing a crop of almonds of about 800 pounds per acre.

*The average totals given in this and other similar tables are not the actual sums of the figures in their respective columns. This is because all the practices were not performed on all of the acres. Each practice is calculated on the basis of the acreage on which the practice was performed. The totals are on the average costs for performing these practices, figuring the entire study as a unit.

Table V.

GENERAL COMPARISON FOR THREE YEARS

Material Costs Per Acre
(Almonds)

	1928	1929	1930	3-Year Average	
				Per Acre	Per Lb.
Cover Crop and Fertilizer	$5.64	$4.64	$4.08	$4.57	0.1¢
Spraying	3.18	2.23	1.97	2.85	0.2
Pest Control	1.32	1.54	1.73	1.56	0.1
Heating	5.64	5.70	.66	3.45	0.1
Harvesting	- -	.26	.52	.27	0.0
Miscellaneous	- -	2.70	1.16	1.52	0.1
Average Total	$3.01	$5.49	$3.98	$4.10	0.3¢

Cash Overhead Costs Per Acre

General Expense	$2.12	$3.02	$3.26	$2.77	0.4¢
Irrigation Taxes	5.51	5.63	5.99	5.70	0.7
County Taxes	4.98	4.59	4.61	4.74	0.6
Compensation Insurance	- -	.95	.80	.88	0.0
Average Total	$12.61	$13.95	$14.44	$14.09	1.7¢

Fixed Overhead Costs Per Acre

Int. and Dep. on Trees	$18.48	$19.62	$21.64	$19.84	2.5¢
Int. and Dep. on Improvements	1.72	1.56	1.60	1.64	0.2
Int. and Dep. on Equipment	3.80	4.21	3.99	3.99	0.5
Int. on Value of Land	13.78	15.87	15.52	14.99	1.9
Total	$37.78	$41.26	$42.75	$40.46	5.1¢

Total All Costs Per Acre

Total Labor and Material Costs	$42.81	$54.74	$59.34	$51.83	6.3¢
Total Cash Overhead Costs	12.61	13.95	14.44	14.09	1.7
Sub-total Cash Costs	55.42	68.69	73.78	65.92	8.3
Total Fixed Overhead Costs	37.78	41.26	42.75	40.46	5.1
Grand Total All Costs	$93.20	$109.95	$116.53	$106.38	13.4¢

The above table shows a general comparison of costs over a three-year period. The average material cost per acre was $4.10. It was highest in 1929 due to the use of oil for orchard heating. The average cash overhead was $14.09 per acre which includes both irrigation and county taxes, compensation insurance, and 5% of material and labor costs for general expense. Total labor and material costs plus cash overhead costs make a total cash cost of $65.92 per acre, or 8.3 cents per pound over the three-year period. Fixed overhead averaged $40.46 per acre or 5.1 cents per pound, making a grand total cost over the three-year period of $106.38 per acre to produce almonds, or a total cost of 13.4 cents per pound.

Table III.

LABOR COSTS PER ACRE FOR EACH VARIETY AND ALL ORCHARDS

(Peaches)

	Tuscans	Midsummers	Phillips	Freestones	All Orchards
Pruning	$ 26.34	$ 20.48	$ 20.56	$ 23.60	$ 21.55
Brush Disposal	2.90	2.68	2.23	3.06	2.59
Cover Crop	2.81	2.91	3.89	1.50	3.24
Spraying	8.45	8.26	6.52	7.29	7.49
Irrigation	4.09	3.62	3.92	4.98	3.96
Cultivation	7.62	7.66	10.05	9.72	8.85
Thinning	18.35	15.45	13.73	15.60	15.13
Bracing	7.86	9.55	7.75	7.64	8.38
Picking	56.11	44.46	30.12	62.57	42.44
Hauling	10.41	12.43	9.61	12.81	11.12
Drying				56.38	56.38
Heating				1.25	1.25
Miscellaneous	4.96	3.47	4.53	5.51	4.35
Average Total	$144.72	$123.15	$105.28	$195.62	$127.74
Average Total Except Drying	$144.72	$123.15	$105.28	$146.23	$121.46

The labor costs by varieties run consistent as in other years. The Tuscan variety shows the highest cost on thinning and harvesting as before. The freestone total cost is higher on account of a larger yield per acre and also includes drying costs.

The average labor cost per acre on an average peach orchard for 1929 is $121.46 per acre. This is slightly less than normal years because of the smaller thinning costs per acre on all varieties on account of frost in 1929.

Table IV.

MATERIAL COST PER ACRE FOR EACH VARIETY AND ALL ORCHARDS

(Peaches)

	Tuscans	Midsummers	Phillips	Freestones	All Orchards
Irrigation	$ 4.49	$ 4.60	$ 4.62	$ 5.71	$ 4.74
Fertilizer	2.00	18.75	2.42	--	3.66
Cover Crop	1.67	--	1.70	2.00	1.77
Spraying	6.13	5.78	4.48	8.09	5.61
Bracing	--	2.77	4.27	4.00	3.57
Harvesting	5.25	--	3.80	5.58	4.61
Drying	--	--	--	2.88	2.88
Average Total Cost	$13.94	$13.40	$11.13	$19.16	$13.30
Average Total Cost Except Drying	$13.94	$13.40	$11.13	$17.04	$13.03

In the material costs the highest cost is represented by the freestone varieties for two reasons: first, a larger tonnage to harvest, causing increased box rental; and second, cost of sulfur used in drying.

The total material costs show a total of $13.03 per acre which is consistent with other year's records.

Table VI.

LABOR COSTS PER TON FOR EACH VARIETY AND ALL ORCHARDS

(Peaches)

	Tuscans	Midsummers	Phillips	Freestones	All Orchards
Pruning	$2.50	$1.85	$2.40	$1.81	$2.09
Brush Disposal	.27	.25	2.23	.23	.20
Cover Crop	.26	.23	3.89	.08	.29
Spraying	.81	.75	.76	.56	.73
Irrigation	.39	.33	.46	.38	.38
Cultivation	.72	.69	1.17	.74	.86
Thinning	1.74	1.39	1.60	1.20	1.47
Bracing	.72	.76	.61	.62	.72
Picking	5.32	4.01	3.52	4.79	4.12
Hauling	.99	1.13	1.12	1.04	1.09
Drying	--	--	--	4.38	4.38
Heating	--	--	--	.07	.07
Miscellaneous	.51	.28	4.53	.36	3.72
Average Total	$13.71	$11.11	$12.30	$14.97	$12.41
Average Total Except Drying	$13.71	$11.11	$12.30	$11.19	$11.80

In analyzing the varieties on the cost per ton basis for labor costs it will be seen that thinning and harvesting costs run higher for Tuscans and Phillips than other varieties. This is due to split pits in Tuscans and the gumming occuring in Phillips. These same relations have been brought out in costs in the other four years' study. The Phillip harvesting cost is less this year than freestones, which is not so usually, but the freestones in 1929 had a higher percent of split pits causing higher harvesting costs. The labor cost per green ton ranged between $11.11 for Midsummers to $13.71 for Tuscans, and an average of all varieties of $11.80 per ton.

MATERIAL COST PER TON FOR EACH VARIETY AND ALL ORCHARDS

	Tuscans	Midsummers	Phillips	Freestones	All Orchards
Irrigation	$ .43	$ .42	$$ .54	$ .44	$ .46
Fertilizer	.21	1.28	.20	--	.32
Cover Crop	.15	--	.43	.11	.19
Spraying	.58	.52	.52	.62	.54
Bracing	--	.22	.40	.31	.29
Harvesting	.53	.13	.55	.44	.49
Drying	--	--	--	.22	.22
Average Total	$1.32	$1.21	$1.30	$1.47	$1.29
Average Total Except Drying	$1.32	$1.21	$1.30	$1.30	$1.27

The material costs per ton by varieties show very little variation if figured on the green ton basis.

Table VII.

RECORD OF ALL COSTS PER TON FOR EACH VARIETY AND ALL RECORDS

(Peaches)

	Tuscans	Midsummers	Phillips	Freestones	All Orchards
Total Labor	$13.71	$11.11	$12.30	$14.97	$12.41
Total Material	1.32	1.21	1.30	1.47	1.29
General Expense	.75	.62	.68	.82	.69
County Taxes	.55	.57	.72	.54	.61
Compensation Insurance	.08	.07	.09	.06	.08
Total Cash Overhead	$ 1.38	$ 1.26	$ 1.49	$ 1.42	$ 1.38
Total Cash Costs	$16.41	$13.58	$15.09	$17.86	$15.08
Int. and Dep. on Trees	$ 4.12	$ 3.81	$ 5.09	$ 3.08	$ 4.14
Int. and Dep. on Improvements	.41	.32	.43	.19	.35
Int. and Dep. on Equipment	.77	.56	.65	.35	.58
Interest on Land	$ 1.99	1.89	2.45	1.61	2.04
Average Total All Costs	$23.70	$20.16	$23.71	$23.09	$22.19
Average Total All Costs Except Drying	$23.70	$20.16	$23.71	$19.14	$21.56

In analyzing the costs on a per ton basis from a fresh standpoint the freestones were produced the cheapest at $19.14 per ton. The Midsummers were next at $20.16, while the Tuscans and Phillips showed practically no difference at $23.70. Tuscans usually are the most expensive variety to produce, and this is again brought out this year, for the average yield of Tuscans per acre in this study was 10.55 against 8.56 for Phillips, thus cutting down the cost per ton for Tuscans.

Table IX.

YIELDS, COSTS AND RETURNS FROM INDIVIDUAL ORCHARDS

(Peaches)

Serial Number	Tons Per Acre	Total Cost Per Ton	Return Per Ton	Total Cost Per Acre	Net Profit Per Acre	Age of Trees
26	20.47	$15.11	$62.46	$309.20	$969.50	4
13	19.72	16.39	71.66	323.16	1089.79	7
1	18.0	10.93	35.00	196.75	434.25	20
4	18.0	23.73	37.67	429.09	248.44	7
16	17.9	17.38	62.77	311.26	812.89	7
19	14.59	18.32	74.46	267.28	819.43	8
39	14.23	18.59	71.11	264.60	747.38	9
10	13.86	22.40	76.08	310.49	714.33	7
31	13.28	18.75	73.80	249.06	731.32	6
3	12.95	17.61	40.00	228.09	279.98	7
17	12.45	18.16	72.52	226.21	276.56	9
2	12.40	20.80	42.32	257.97	266.81	7
25	12.36	17.29	74.17	213.83	702.97	5
18	12.13	21.17	74.56	256.74	647.56	6
12	12.02	21.81	68.88	262.19	565.55	9
32	11.89	19.37	60.02	230.29	483.52	9
5	11.13	25.76	26.71	286.91	10.18	9
7	10.82	20.04	68.09	216.94	519.98	12
37	10.70	17.42	76.11	194.99	619.15	19
15	10.17	24.54	75.23	294.44	515.44	5
22	10.00	18.87	51.12	187.85	321.64	6
8	9.94	24.66	74.08	245.05	491.22	7
38	9.83	16.98	69.52	166.86	516.72	9
9	9.72	26.05	72.48	253.15	451.12	6
34	9.51	19.55	80.35	185.93	573.31	6
29	9.48	21.66	72.40	205.39	481.01	6
24	9.23	19.41	79.52	179.18	554.97	6
27	8.14	19.56	76.20	178.65	517.53	7
30	8.71	13.69	75.11	119.17	534.79	20
35	8.69	27.73	74.67	240.92	407.90	6
42	8.44	20.64	63.50	173.90	361.82	12
28	8.43	27.50	66.11	231.79	325.26	5
11	8.37	21.87	73.99	190.68	428.76	11
41	8.18	22.79	70.00	186.44	386.29	9
40	7.93	18.22	69.02	144.48	402.55	12
14	7.12	31.60	71.16	225.00	281.59	6
6	7.02	33.55	90.74	235.29	401.27	6
20	5.92	27.33	71.95	161.71	264.14	5
21	4.90	29.94	73.31	144.66	214.41	5
33	4.58	34.31	73.34	157.07	178.57	7
36	3.40	41.65	67.54	141.65	88.01	6
23	2.87	37.72	79.71	108.40	120.75	3
Average	10.29	$22.19	$67.61	$228.33	$467.50	7

Material from all records in the 1929 study is shown in this table. The orchards are arranged in order of yield per acre. The bottom line is an average of all records and may be used as a yardstick for making individual grower's comparisons. Part of the wide variations in per acre costs is due to a drying charge in the records of freestone varieties.

APPENDIX 1

Delinquency on Lands Sampled in the Survey as Compared to Delinquency for the District as a Whole

In order that some judgment might be reached as to whether the farming properties of 20 acres or more represent the most serious problem from the standpoint of delinquency, request was made of Mr. H. P. Sargent, secretary of the District, for the acreage, assessed value, and District assessment levied as of 1931 for each of the 1,638 farm properties from which the samples were drawn, together with a record of the acreages delinquent and amounts of tax delinquent for each of the years 1929, 1930, 1931, and 1932. These were supplied by Mr. Sargent and are summarized below as compared with the figures for the same items for the entire District reported earlier in this report.

Assessment Roll -- Rural Property Only (City and Town Lots out)
Rural Tax and City Tax Segregated

Year	Valuation	Rate	Rural tax	City tax	Total
1928-29	$18,446,320	6.00	$1,106,779.20	$135,613.80	$1,242,393.00
1929-30	18,039,595	6.00	1,082,375.70	134,374.80	1,216,750.50
1930-31	18,006,195	5.90	1,062,365.50	132,219.85	1,194,585.35
1931-32	16,718,990	5.60	936,263.44	135,304.40	1,071,567.84

Rural tax 91 per cent of Roll.

City tax 9 per cent of Roll.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

[illegible]

	Farms of 20 acres and over*	All rural property in the District	All lands in the District
Acres	74,310.7		
Assessed value for 1930-31 . . .	$7,912,241.00	$18,006,195.00	$20,246,775.00
Assessment levied 1930-31	$456,745.51	$1,062,365.50	$1,194,585.35

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Rural Property Subdivided as to Parcels of 20 Acres and Over
and as to Parcels of Less Than 20 Acres

	Properties of 20 acres and over (from which sample was drawn)	Rural properties of less than 20 acres and corporation lands not sampled
Assessment levied 1931	$456,745.51	$605,619.99#

Obtained by calculating assessment on the 1,638 properties and deducting that from the total assessment on rural property.

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	Delinquencies on farms of 20 acres and over* (last Monday in June of each year)			Delinquencies on all lands in the District (last Monday in June of each year)
	Acres	Amounts	Percentages of assessments levied in 1931	Percentages of assessments levied
1928-29	4,106	$ 35,917.18	7.86	9.51
1929-30	11,659½	86,108.32	18.85	9.62
1930-31	31,816	199,731.32	43.73	17.63
1931-32	47,468	289,526.46	63.38	37.40

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* Not all units of 20 acres and over are included. Properties to which the District has taken title are omitted. Also, a number of the large corporation properties and certain smaller properties where recent changes in ownership, or ownership of many pieces made identification of the specific parcel difficult. The bulk of the properties from which the survey samples were drawn are included, however.

It will be seen that the percentages of delinquency on these properties are substantially heavier than those for the District as a whole.

APPENDIX K

The Farm Debt Situation in the Merced District as Indicated by Debt Data from the Farms Covered in the Survey

This appendix presents a summarization of the mortgage and short-term debt situation as indicated for the District by the survey schedules taken. Both the type and amount of loan are indicated, and together with these the extent of delinquency on payments as indicated by the statements of the farmers interviewed. This, however, does not measure the major part of the delinquency since that is reflected in farms taken over by foreclosure. These represent a very substantial acreage in the District and involve many thousands of dollars invested by the lending agencies. The number of farms taken over and now held by lenders and lending agencies is not less than 250, and is probably substantially greater than this. Specific study of this has not been made, but the number indicated can be accounted for in the known holdings of the lending agencies. These represent an investment of not less than a million dollars. It is impossible at the present time to determine what losses these take-overs involve for the mortgagors and for the lenders.

Following the tables there is presented a summarization of the estimates as to debt for the District as a whole.

Following these is a summarization of the changes in the bank accounts of identical depositors in the Atwater Branch of the Bank of America as between November 1, 1928 and November 1, 1932. In interpreting this table it should be kept in mind that this is in the heart of the oldest and best developed section of the District, peopled by an extremely conservative, thrifty, and hard-working group of farmers. It represents unquestionably the best financial situation of any community in the District and is materially above conditions for almost every other community in the area.

The heavy shrinkage in the commercial accounts and the apparent beginning of a decline in savings accounts bring sharply to the front the question of means of securing needed credit for operating the farms of the District. This problem has in many cases become acute within the past year.

Table 1

Mortgage Debt of Farms in Sample

First Mortgages on Real Estate

Schedule number	Acres	Mortgagee	Amount first mortgage	Date given	Date due	Interest rate (per cent)	For what contracted	Extent payments in arrears
5	27	Federal Land Bank	$1,248	1927	1947	5	Improvements	None
11	48		5,400	1918	1958	5½	Improvements	None
12	98		3,420	(1925 (1927		5¼) 5½)	Operating expense	$457))
16	20		1,500	1919	1953	5½	Purchase land	None
39	293		10,000			5½	On purchase price	Dec.1930
43	66		1,800	1927	1960	5	On purchase price	None
46	59		4,500	1929	1949	5	To pay Bk. of Amer.	$200
47	50		4,200		30 yr.	5&6		1 yr.
60	29		2,300	1924	1944	5	Improvements	None
73	28		1,500	Foreclosed				
87	40		2,000					
91	79		10,000			5¼	On ranch when pur.	
93	23		1,550	1921	1942	5½		None
94	80		2,700	1919	1949	5½	Land improvements	2 payments
95	49		2,400	1923	1943	5½	Ranch purchase	
96	78		2,890	1927	1957	5½	Ranch	None
115	78		3.500	1927	Long time loan	5½	Used on other property	
117	38		1,000			5½		
128	62		6,000	1928		6½	Improvements	
169	79		2,400	1928	1964	5	Purchase price	None
177	145		2,868	1927		5¼	Improv. and cows	None
194	39		2,350			6	Bal. purchase pr.	
195	40		4,500	1918	1951		Bal. purchase pr.	
205	88		4,600			5½	Improvements	None
212	52		3,200	1925	1958	5½	Purchase land	None
217	46		5,000	(1922 (	(1942 (1956	6 5½	Pay old mortgage	None))
218	47		3,800	1926	1947	6½	Pay old mortgage	None
239	32		2,400	1927	1947	5½or6	Purchase land	$100
243	20		1,800	1932	1951	5½	Purchase land	None
272	126		7,000	1924	1958	5½	Combine mortgage on ranch	July, 1932 payment
No. of farms 30	Total acres 1959		$107,826					
4	133	Joint Stock Land Banks	7,000	1926	1946	6	Operating expense	None
25	148		12,500	1923	1943	6	Improvements	None
29	78		7,000	1920	1940	6	Purchase ranch	
74	44		4,800	1924	1944	6	Bal. purchase pr.	
85	80		2,660	1923	1944	6	Pay doctor's liens	None
131	41		2,600	1927	1957	6		None
133	60		5,000	1921	1941	5½		None
206	53		3,767	1929	1945	6	Pay old mortgage	None
207	220*		63,000*	1924	1944	6	Improv. Pay old mortgage	None
214	56		3,800	1926	1946	6	Pay mortgage; improvements	Current payment
218	20		1,200	1928	1948	7	Land purchase	
234	61		7,000				Purchase price	None
257	59		3,300	1922	1942	6	Purchase ranch	None
274	368		1,200	1923		6	Pay former loan	None
134	45		5,287	1921	1952		Pay off contract	$4567
136	66		9,006				Bal. purchase pr.	
No. of farms 16	Total acres 1532		$139,120					

* Mortgage on 960 acres including the 220 listed.

Schedule number	Acres	Mortgagee	Amount first mortgage	Date given	Date due	Interest rate (per cent	For what contracted	Extent payments in arrears
10	48	Individuals and corporations other than bks. or insurance companies	$7,000	1925		6	Bal. purchase price	
15	20		1,000	1931	1932	6	Improvements	
17	29		2,900	1930	1931	7	Purchase land	
57	30		2,500	1930	1933	7	Bal. purchase price	
59	40		2,000	1931	1932	6	Pay taxes and bills	None
75	26		3,960	1924	1944		Bal. purchase price	
78	39		1,700	1930		7		
109	55		2,100	1931	1936	6	Bal. purchase price	$600
	35		1,644	1931	1936	6	Bal. purchase price	500
110	57		6,500	1929	1942	6	Purchase price	+ int.
111	39		3,000	Ren. 1932	1933	6	Purchase land	None
112	38		10,000	1928	1931	7	Purchase land	1 year's interest
113	19		4,500	1921		7	Land & improv.	2 year's interest
116	127		4,500	1919		7	Purchase land	None
119	24		2,000	1928		5	Purchase price	2 year's
122	73		4,000	1927		7	Bal. purchase price	interest
126	39		6,000	1922		6	Purchase contract	$1500
129	130		5,000	1922	1934	7	Purchase land	None
146	27		3,300	1914	1932	6	Purchase land	
146	40		1,200	1929		6½	Purchase land	
147	23		4,000	1929	1939	6	Purchase land	None
149	19		2,000	1925	1933	7	Improvements	None
152	223		2,500	1921	1932	6	Purchase land	None
165	54		2,400			7	Bal. purchase price	
166	102		4,000	1922	Foreclosed			
168	53		2,300	1926	1931	6	Purchase land	1 year
171	39		1,200			4		
189	37		1,500	1930	1932	7	To pay off trust/deed	None
190	20		1,500				Bal. purchase price	
200	30		1,000	1930		7	Cows, bills, taxes	
208	10		2,000	1922	Foreclosed		Purchase land	
208	10		1,500	1922	"	6	Purchase land	
209	19		2,000	1922	1933	6	Land & improv.	None
210	31		5,000	1928	1933	8	Improvements	Int. waived
221	26		2,600	1922	1927	7		All
223	281		98,000	1926		6½	Purchase	
225	40		2,435	1929	1934	7	Land purchase	Int.for
225	40		3,000	1929	1933	7	Purchase land	1931-32
229	39		2,000	1930	1933	7	Reduce mortgage	None
235	38		(4,500 (2,500				Taxes and interest	
238	38		4,450	1920	When paid	6	Purchase land	2 yrs.
249	29		3,300	1930		6	Bal. purchase pr.	
253	40		1,400	1931	1934	6	Assumed on purch. of land	None
259	36		3,250	1921		6½	Purchase ranch	None
261	20		3,680	1923	Past due	7	Purchase ranch	7 yrs.
228	39		6,000	1927	1947	5	Purchase land	$575
6	136		2,200	1930	1934	7	Ranch	None
12	98		11,750	1912		6	Land contract	
47	40		1,000	1930		6	Bal. purchase	
50	95		175	1929	1939	7	Bal. purchase pr.	None
70	38		750	1930		6	Bal. purchase pr.	250
143	23½		277	1931	1944	7	Purchase land	116
202	46		900	1930	1940	6	Bal. purchase pr.	
251	26		832	1929	1939	6	Bal. purchase pr.	
252	36		576	1929	1939	6	Bal. purchase pr.	
No. of farms 51	Total acres 2809½		$263,279					

Schedule number	Acres	Mortgagee	Amount first mortgage	Date given	Date due	Interest rate (per cent)	For what contracted	Extent payments in arrears
17	58	Life Insurance Company (Four companies represented in this sample)	$4,500	1932	1937	7	Purchase land	
82	39		5,000	1928	1938	$6\frac{1}{2}$		3 int.pay
215	47		5,700	1926	1933	7	Pay old mortgage	None
268	1101						Purchase	None
275	242		26,000	1924	1930	7	Purchase & improv.	$1\frac{1}{2}$ yrs.
No. of farms 5	Total acres 1487		$41,200					
3	34	Mortgage bank	$6,000	1923	1937	7	Improvements	
82	20		1,500	1923	1934	$7\frac{1}{2}$	Pay old mortgage	None
132	40		4,100	1925	1934	$7\frac{1}{2}$	Purchase farm	None
244	40		3,500	1922	1934	$7\frac{1}{2}$	Improvements	1932 int.
245	125		15,000	1920	1932	7	Pay other mortgage	3 years
246	39		3,500	1920	1936	$7\frac{1}{2}$	Purchase land	None
No. of farms 6	Total acres 298		$33,600					
7	41	Commercial Bank	$3,179	1931	1932	7		
19	30		5,500	1920		7	Purchase land	
20	49		4,000	1929	1933	7	Purchase land	None
23	45		1,750	1932	1936	7	Purchase land	None
45	107		13,000	1931		7	Improvements, cows, taxes	
48	85		4,000	1930		7	On purchase	
49	20		500	1931	1932	7		None
62	29		2,470	1931		7	Purchase	None
63	53		4,000	1929		7	Purchase	None
64	27		5,000		1936	7	Improvements	None
72	21		2,500			7	Bal. purchase pr.	
85	80		1,000	1927	Over-due	7	Operations	
90	45		4,500	1922		7	Bldgs., improv.	Foreclosed 1932
97	60						Build houses	
110	61		5,050	1927	1932	7	Purch. 61 acres	$500
144	49		2,300	1928	1932	7	Cows and M.I.D. taxes	None
151	39		6,500	Ren. 1932	1935	7	Operating expense	
154	39		6,244	1928	1929	7	Pay old loan	
164	40		4,100			7		
179	78		Foreclosed July, 1932					
185	20		1,135	1922		7	Refinance ranch	None
193	20		3,150	1928		7	Bal. purchase pr.	1 mo's. int.
204	34		6,000	1929	1934	7	Purchase land	None
220	20		3,000	1927	1932	7		None
226	57		5,700	1928	Annu-ally	7	Purchase land	
231	42							
237	20			1929	1934	7	Purchase land	1 year
241	35		5,000	1930	1934	7	Improvements	None
266	40		2,000	1929		7	Build house	
271	39		4,000	1930		7	Refinance balance due on ranch	
118	23		2,680				Purchase price	None
2	80		8,000	1927	When paid	7	Land and improv.	None
24	51		4,800	1930		7	Purchase	None
33	56		4,600	1926	1936	8	Purchase	1 year
116	127		14,100	1926				
120	48		300	1926	1936	6	Refinance ranch	

Schedule number	Acres	Mortgagee	Amount first mortgage	Date given	Date due	Interest rate (per cent)	For what contracted	Extent payments in arrears
198	75		$10,000				Cattle business	
256	88		2,500	1927	1932	7	Pay old loan	None
32	40		7,500	1919		7	Contract of sales	
107	21		750	1926		7	Bal. purchase pr.	
107	40		1,000	1930		7	Bal. purchase pr.	
6	136		4,000	1931	1935	7	Ranch	$2000
No. of farms 41	Total acres 2110		$166,308					

Chattel Mortgages and Other Bank Loans

Schedule number	Acres	Mortgagee or lender	Amount of mortgage or loan	Date given	Date due	Interest rate (per cent)	For what contracted	Extent payments in arrears
2	80		$2,000	1932	1932	8	Operations	
107	196		6,500				Build house, level, taxes	
110	118		190	1932	1932	7	Crop mortgage	None
112	38		450	1930	1931	7	Operations	1 yr. 6 mo. int.
124	20		300	1931	1931	8	Pay taxes	Overdue Oct.1931
131	41		500	1932	Call	7	Taxes	
133	60		500	1932	1932	8	Harvest	
238	38		350	1932	1932	8	Operations	None
164	40		400				Interest & taxes	
116	127		13,000	1930		7	Purchase stocks	overdue Prin./
206	53		87	1929	Call	8	Purchase cows	None
29	78		700	1930		7	Purchase cows	
46	59		1,825			8	Purchase cattle	3 mos int.
47	176		800	1931		7	Purchase feed	
74	44		1,000	1930			No feed so turned cows over to bank	
177	145		1,100	1931	1932	7	Taxes, buy sheep and feed	
225	75		620	1932	Demand	8	Current expenses	Interest
234	61		900			7		
272	126		563	1932		7	Pay note given to pay M. I. D.tax	
4	133		6,500	1932	1932	7	Operations	
9	58		400	1929	1932	7	Buy tractor	
10	48		100	1932		8	Pay county tax	
52	50		135				Pay water tax	
64	27		750	1932	1932	7	Operations	
92	39		450	1932	1932	7	Living expenses	
94	80		200	1930		8		
131	41		2,200	1932	Call	7	Taxes	
135	45		700	1932	1932	7	Operations	
143	23½		1,750	1930	1930		Deficiency judgment	Total
153	40		2,000	1932	1932	7	Make up losses	Past due
165	54		100					
209	19		150	1929	1932	7	Rebuild house	None
212	52		100	1932	1932	8	Harvest	
240	205		5,000	1931	1934	7	Operations	None
242	35		200	1932	1932	7	Harvest	None
No. of farms 34	Total acres 2483½		$52,520					

Second Mortgages

Schedule number	Acres	Mortgagee	Amount second mortgage	Date given	Date due	Interest rate (per cent)	For what contracted	Extent payments in arrears
6	136	By individuals or by corporations other than banking corporations	$5,000	1931	1935	7	Ranch	None
16	20		900	1923	1932	5	Buy town lot	None
85	80		4,000	1932		7	Operations	None
110	61		2,200	1927	1933	6	Purchase land	$270
128	62		11,000	1931	1941	7	Purchase land	None
226	57		6,000	1929		6	Refinance loan	
208	10		1,300	1922		6	Purchase land	Foreclosed 2 yrs.
239	32		650	1927	1929	7	Purchase land	
No. of farms 8	Total acres 458		$31,050					

Table 2

List of Those Farms Having No Mortgage

Schedule number	Acres	Schedule number	Acres	Schedule number	Acres
18	19	98	79	181	209
22	39	121	863	184	1004
27	40	123	19	187	42
31	35	125	20	192	20
34	11	127	27	197	38
36	38	130	49	201	20
38	23	138	42	203	40
40	40	139	170	211	29
41	83	140	26	216	36
42	39	141	70	219	28
44	42	145	39	222	20
51	107	148	19	224	38
53	20	155	56	106	24
54	24	156	165	196	40
55	39	157	86	232	84
56	20	158	46	236	38
58	26	159	39	247	21
65	34	160	50	248	37
66	49	161	20	250	60
71	21	167	48	254	104
79	19	170	60	255	42
80	39	172	20	257	40
81	39	173	103	258	37
83	30	175	29	263	58
84	19	176	77	No. of farms	Total acres
86	20	178	19	76	5,265

List of Those Giving No Information

8	40	99	39	213	40
13	31	105	181	227	39
14	20	136	65	230	20
28	43	142	61	233	93
30	41	162	22	260	59
37	68	163	30	262	39
67	157	174	60	264	130
68	46	180	20	273	158
76	40	183	78	271	39
77	33	191	37	No. of farms	Total acres
88	38	199	20		
89	38			32	1,825

Table 3

First and Second Mortgage and Chattel and Bank Loans on Farms in Survey Sample, 1932

Type of mortgage	Number of farms*	Number of acres	Amount of mortgage	Average per farm mortgaged	Average per acre mortgaged	Average per farm reporting	Average per acre reporting
First mortgage	148	10,808½	$751,333				
Second mortgage	8	458	31,050				
First and second mortgages	148	10,808½	782,383	$5,286.37	$72.39	$3,372.34	$47.23
Chattel mortgages and bank loans	34	2,483½	52,520	1,544.71	20.15	226.38	3.17
No mortgage	76	5,265	0				

*Schedule numbers 116, 208, 225, 146, and 207 which have two mortgages, each on a separate part of the same farm, have been counted in the number of farms column only once.

*The 8 farms (458 acres) having second mortgages were counted in the first mortgage group; hence they were not added to number of farms or number of acres for first and second mortgages.

Rough Estimate of Mortgage Loans Outstanding on the 1,463 Farms from which Sample was Drawn

If we assume the average debt for the farms on which information as to debts was given to be applicable to the entire 1,463, the following figures give a rough approximation of the total amounts owed by these farms as first mortgages and as second and chattel mortgages.

Estimated total of first and second mortgages for the 1,463 farms of 20 acres and over (excluding rice and pasture farms)	$4,501,456.00
Estimated total of chattel mortgages and bank loans same farms	$302,825.00

It should be recognized that this does not include all loans in the District since loans to owners of small properties, store bills, city loans, and certain other types of loans are not included.

Recognition also needs to be given to the fact that information of this type is more likely to be incomplete than most of the other kinds of information covered in the survey. On the other hand the farms mortgaged are likely to be somewhat better than the average since lenders tend to be somewhat reluctant to lend on the poorest grades of land. Records relative to mortgage conditions on the grazing and rice lands were not secured; so the acreages used in computing the above totals exclude these. A summary of the debt situation as found is presented in Table 3 . This does not include such forms of debt as store bills and various personal loans.

Table 4

Changes in Identical Accounts, Atwater Branch, Bank of America, November 1, 1928 to November 1, 1932

(Totals)

Checking accounts		
Number		226
Number which increased during the period		61
Total of such increases		$12,543.48
Number which decreased during the period		165
Total of such decreases		$130,599.28
Net decrease	$194,548.63	
	- 76,492.83	$118,055.80
Savings accounts		
Number		435
Number which increased during the period		241
Total of such increases		$59,730.65
Number which decreased during the period		194
Total of such decreases		$87,489.54
Net decrease	$243,704.15	
	-215,945.26	$27,758.89
Total of checking and savings accounts, November 1, 1928		$438,252.78
" " " " " " November 1, 1932		292,438.09
Decrease		$145,814.69

APPENDIX L

Case Histories of a Number of Farms Which Illustrate the Problem Where for Various Reasons the Land Has Not Been Well Farmed

These situations are shown to illustrate the nature of the problems arising in a substantial number of cases within the District which give rise to inadequate operation and very low returns and to very low costs if taxes are not included. These are not representative cases, but are characteristic of a number of farms which fall in the lowest portion of the arrays as to incomes, costs, and net returns. It cannot be expected that taxes can be so adjusted that farms thus operated will carry themselves, but, without arrangements which will give some marketability to the lands of the District and some borrowing power to landowners, it seems likely that an increasing number of the farms will fall into this semi-operated condition or will be taken over by the District.

Case No. 1 (175)

Bought place in 1918 for $6,000; all buildings on place. 12 acres had been in alfalfa, but nothing left. _____ lived on place until 1923; was engaged in buying and selling cattle and used place as a feeding lot. 1923 to 1926 place was leased to sweet potato growers. 1927 sold place on contract to brother for $4,000, $1,000 down payment, and took it back in fall of 1930. During these years _____ advanced $1,400 for taxes, etc. Place deserted from fall of 1930 to February, 1932. Place rented for $25 per month, but hasn't collected any to date. The alfalfa on the place was planted in 1929. Should be plowed out this fall. Owner has had place listed for $1,500 but would take $1,000.

Case No. 2 (103)

_____ bought the place in June, 1932. No information available. Has been rented by _____ for several years previous to many different tenants. Nothing left on place but 15 acres of 12 year old alfalfa. Buildings in a very poor state of

repair. About 1925 ____ was offered $14,000 for ranch. In 1930 he was offered $10,000 all cash for place. He sold it in 1932 subject to about $3,000 and one year's taxes of $500. He received between $300 and $400 for his equity.

Case No. 3 (78)

Owner bought land 7 years ago, 22 acres for $15,000. It was part of the old Crocker-Huffman Irrigation System. His house burned several years ago. His wife left, and he is now living in a room on the farm by himself. He built a new house for $3,000 and rents that to town people. He has done very little with his plum orchard. It has brought practically no returns and he expects to pull it out next year. His grain produces fairly well, but he has not sold this season's or last season's crops. His hay is baled and stored in his barn. He has on hand about 27 tons of good hay. This record is incomplete. Farmer would give no information, but this much was obtained simply in conversation with him. He apparently has no outside income; all labor on the place is done by himself and crop yields are poor. His orchard is in very poor shape.

Case No. 4 (76)

No one is farming this place this year. The place is grown over with weeds. The stand of fig trees is fair, but the trees show neglect. There is a swamp area on this property which would probably embrace 2 acres; the balance of the land is apparently well drained.

Case No. 5 (203)

Bought ranch in 1920 for $6,000, $1,500 cash and paid balance of $4,500 in 1925 expecting to improve for a home. His brother owns adjoining property. Party was a building contractor working in Los Angeles and expected to develop this property out of contracting business. When the depression slowed up his contracting business it made it impossible to improve the ranch and he has never been able even to make the taxes out of this property. Party lives on property belonging to father's estate and is driving a bus. His wife is janitor at one of

the schools. He expects to get his father's ranch as his share of the estate and with the money they get from the school jobs they hope to be able to keep their taxes paid.

Case No. 6 (141)

____ purchased 70 acres from the Stevinson Corporation in December, 1931, and paid $700 all cash. He states that nothing was raised on this land for at least three years prior to his purchase. The sweet potatoes show a fair stand throughout with prospect of a fairly good crop. The canal broke twice in July and flooded 8 to 9 acres of beans and melons, causing severe damage to both. About 10 acres of the beans will mature for harvest. About 6 acres of land, in two pieces, lie above the canal and cannot be irrigated.

APPENDIX M

Principal Causes of Failure to Meet Payments* on Irrigation District Obligations

(As summarized by Mr. Wells A. Hutchins on the basis of studies made of 37 defaulting irrigation districts)**

"The principal reasons why the irrigation projects included in this study failed to meet their obligations were as follows:

"(1) Inadequacy of water supply for the area included in the project.

"(2) Inadequacy of the irrigation system for service of all lands charged with its cost, due mainly to difficulties in financing its completion.

"(3) Irrigation charges, found to be unbearable when added to annual costs of land and improvements and living costs, due to overcapitalization, inflation of costs by 'cost-plus' contracts, unduly brief amortization periods, or 'pyramiding' of district assessments in blanket-liability States.

"(4) Heavy exploitation and speculation in providing water and lands for settlers, including dishonest construction.

"(5) Inclusion in the project of large proportions of marginal and submarginal lands and areas unsuited topographically.

"(6) Engineering difficulties, disaster to irrigation works, and unduly heavy maintenance and operation charges.

"(7) Lack of properly devised and financed colonization plan; insufficient settlement and development of land; and subsequent abandonment of land by settlers.

"(8) Unfavorable farming and marketing conditions.

"(9) Water shortages in the first few years of the project's life, resulting in initial crop failures and consequently failure to meet obligations.

"(10) Drainage troubles.

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* As previously indicated, the causes of difficulty considered to be prominent in the case of the Merced District are those numbered 3, 5, 8, and 10.

** See Wells A. Hutchins, "Financial Settlements of Defaulting Irrigation Enterprises," United States Department of Agriculture Circular No. 72, Washington, 1929, pp. 4 and 5.

"(11) Internal troubles, graft, bad government, and broken morale of landowners.

"The specific reasons fall into four principal classes: (1) Engineering mistakes, which in future development should decrease with increasing technical knowledge and experience; (2) exploitation, which the various district and "blue-sky" laws are attempting to guard against; (3) colonization difficulties; and (4) changes in the financial and economic situation, which can not always be foreseen and therefore require a large margin of safety.

"Inadequacy of the water supply has been one of the leading causes of default, while two of the projects were wrecked by total failure of their proposed sources of supply. Insufficient colonization and lack of means of actual settlers to develop their holdings properly, resulting from failure of colonization plans or from lack of properly financed and executed plans, and inability of the lands to carry the charges imposed upon them, constitute the other major causes. Unfavorable farming and marketing conditions accompanying the general agricultural depression following the World War have been a source of much trouble to going projects, and in other cases have been of local influence because of altitude, distance from markets, and unfortunate crop specializations.

"These conditions depend more or less upon each other. For example, overcapitalization has resulted in some cases from excessive promotion profits; in others from overoptimism on the part of landowners and mistaken judgment of investment bankers as to the value of lands when construction is completed; in still others from inclusion of too much unproductive or badly situated land; and again from bad management in carrying out development plans. In one project a vicious circle was created by failure to complete the distribution system with available capital because of unexpectedly heavy reservoir costs, with the result that lack of water caused large areas to go delinquent, which in turn threw the project into default and ruined the market for further bonds offered to finance completion of the distribution system. In certain cases abandonment of settled lands has resulted from discouragement over the uphill task of making the lands pay constantly increasing irrigation charges, the net result being inability of these projects to carry more than a small part of their annual obligations.

"Discouragement of landowners, intensified by pyramiding of district assessments where the lien is blanket in character almost inevitably results from troubles severe enough to cause the project to default. Even where such troubles do not drive farmers away they often prevent them from bringing much additional land under cultivation or otherwise adding materially to improvements which they feel may soon be lost through tax sales, and it not infrequently leads the wealthier landowners to refuse to pay charges they are well able to pay. In many States lack of statutory authority to eject delinquents from the land until long after their first failure to pay taxes, and uncertainty in some instances as to the right to refuse delivery of water for nonpayment of assessments, often permit delinquents to harvest several successive crops without paying a cent on the project indebtedness. A defaulting project can offer little inducement to prospective settlers."